LPDES PERMIT NO. LA0007901, AI No. 38936

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM (LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

I. **Company/Facility Name:** Gaylord Container Corporation d/b/a Temple Inland Paperboard and Packaging, Inc.
Bogalusa Mill
Post Office Box 1060
Bogalusa, Louisiana 70427

II. **Issuing Office:** Louisiana Department of Environmental Quality (LDEQ)
Office of Environmental Services
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

III. **Prepared By:** Sonja Loyd
Water & Waste Permits Division
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Date Prepared: October 7, 2005

IV. **Permit Action/Status:**

A. Reason For Permit Action:

Proposed reissuance of an expired Louisiana Pollutant Discharge Elimination System (LPDES) permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46*.

* In order to ease the transition from NPDES to LPDES permits, dual regulatory references are provided where applicable. The LAC references are the legal references while the 40 CFR references are presented for informational purposes only. In most cases, LAC language is based on and is identical to the 40 CFR language. 40 CFR Parts 401-402, and 404-471 have been adopted by reference at LAC 33:IX.4903 and will not have dual references. In addition, state standards (LAC Chapter 11) will not have dual references.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301.F, 4901, and 4903.

B. LPDES permit: Effective date - February 1,1995
Major modification date - November 1, 1998

Minor modification date - June 29, 1999
Expiration date: January 31, 2000
EPA has not retained enforcement authority.

LPDES Multi-Sector General Permit (LAR05M243):
Effective date - May 1, 2001
Issuance date - May 25, 2001
Expiration date - April 29, 2006

C. Date Application Received: A renewal application (dated July 30, 1999) was received by this Office on August 2, 1999. An addendum to the 1998 application was received on October 21, 2004. Supplemental information needed to complete the permitting process was received on October 18, 1999, February 14, 2002, March 5, 2002, February 11, 2003, and October 21, 2004 (also contained documents dated May 3, 2004, May 6, 2004, and August 25, 2004).

V. Facility Information:

A. Location - 4th Street in Bogalusa, Washington Parish (Latitude 30°46'30", Longitude 89°51'17")

B. Applicant Activity -

According to the application, Gaylord Container Corporation d/b/a Temple Inland Paperboard and Packaging, Inc., Bogalusa Mill, is an unbleached kraft paper mill, container plant, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant.

The Bogalusa Mill manufactures paper and linerboard from virgin pulp produced using the unbleached kraft process and also from secondary pulp produced from recycled containerboard and paper products. Wood chips are converted to pulp using an alkaline solution (white cooking liquor) in a digester. The pulp is washed to remove the spent cooking liquor (weak black liquor). Turpentine (a byproduct) is collected from the top of the digester.

The weak black liquor is evaporated to produce strong black liquor. Tall oil soap (a byproduct) is separated from the black liquor in a skimming tank. The strong black liquor is then burned in a chemical recovery boiler. The ash, or smelt, is mixed with water to form green liquor that is then treated with lime to regenerate white cooling liquor. The lime mud produced is burned to recover lime for reuse.

Pulp is also produced from waste paper in a non-deinking process. Water is added to waste paper in tanks and beaten into a pulp slurry that is subsequently screened and thickened.

The pulp (from kraft process and wastepaper) is refined, diluted with water, sent to the paper machines where the water is removed and paper sheet is formed. The paper sheet is further pressed and dried.

The Bogalusa Container Plant manufactures corrugated containerboard from solid fibre sheet stock. A boiler is operated in conjunction with the corrugator to produce steam which is used to heat the adhesive and the rollers associated with the corrugator. Adhesive formulations used in the lamination and corrugation steps are starch-based; no phenolic-based adhesives are used. The corrugated containerboard is then cut using rotary die cutters. Water reducible colored inks are applied to the surface of the corrugated sheet stock using flexographic printing presses. Wastewater from the container plant consists of sanitary wastewater, boiler blowdown, and washwater from the flexographic printing and starch-making processes.

The Gaylord Chemical Corporation (Chemical Plant) produces dimethyl sulfide and dimethyl sulfoxide as by-products from kraft black liquor.

C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401-402, and 404-471 have been adopted by reference at LAC 33:IX.4903)

Guideline	Reference
Pulp, Paper and Paperboard	40 CFR 430*, Subparts C and J

* Based on the subcategorization scheme codified in the current edition of 40 CFR Parts 425-699, these subparts were designated as Subpart A (current Subpart C) and Subpart E (current Subpart J) in the 1997 and earlier editions.

[NOTE: According to the permittee's 1994 fact sheet, the facility was also classified as being subject to 40 CFR 430, Subpart B - Semi-Chemical Subcategory (current Subpart F). However, based on verbal communications with facility personnel on March 5 and 8, 2004, the semi-chemical digester has been operated as a kraft digester for the past several years. Consequently, the 1999 permit application did not list the facility as falling under the semi-chemical subcategory or provide production data for the semi-chemical subcategory.]

Organic Chemicals, Plastics, and Synthetic Fibers — 40 CFR 414, Subpart H and I

Other sources of technology-based limits:
LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6)
Best Professional Judgement

D. Fee Rate -
1. Fee Rating Facility Type: Major
2. Complexity Type: III
3. Wastewater Type: II
4. SIC code: 2611, 2621, 2631, 2653, and 2869

E. Continuous Facility Effluent Flow - Max 30-Day, 22.4 MGD (Based on flow values reported in the facility's DMRs for the monitoring period of August 2003 to August 2005.)

The flow value for the portion of process wastewater falling under 40 CFR 414 is 0.65 MGD from Water Flow Schematic dated August 25, 2004.

VI. Receiving Waters: Pearl River

A. TSS (15%), mg/L: 16
B. Average Hardness, mg/L $CaCO_3$: 16.1
C. Critical Flow, cfs: 1,253
D. Mixing Zone Fraction: 0.333
E. Harmonic Mean Flow, cfs: 3,821
F. River Basin: Pearl River, Subsegment No. 090101
G. Designated Uses:
The designated uses are primary contact recreation, secondary contact recreation, and propagation of fish and wildlife

Information based on the following: LAC 33:IX Chapter 11 and memorandum from Brian Baker to Sonja Loyd dated October 23, 2003. Hardness and 15% TSS data come from monitoring station No. 012 at the bridge on Highway 10, 2 miles east of Bogalusa. The flow values for the Pearl River were obtained from USGS flow monitoring station No. 02489500, near Bogalusa.

VII. Outfall Information:

Outfall 001

A. Type of wastewater - Treated combined process wastewater from the kraft pulp and paper mill, linerboard mill, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant; container plant wastewater;

boiler and cooling tower blowdown; sludge dewatering liquid; lime kiln scrubber and boiler scrubber wastewater; miscellaneous wastewaters (comprised of wastewater from shops and offices); sanitary wastewater; and process area stormwater

B. Location - At the point of discharge from the still basin into the 72" conduit pipe that discharges to the Pearl River from the multiport diffuser (Latitude 30°46'32", Longitude 89°49'43").

C. Treatment - physical screen, primary clarifier, and 63-acre aerated lagoon with a still basin. A 5-acre pre-retention pond is used when the primary clarifier is bypassed due to overloading.

D. Flow - Continuous, 22.4 MGD, Max 30-Day (Based on flow values reported in the facility's DMRs for the monitoring period of August 2003 to August 2005)

E. Receiving waters - Pearl River

F. Basin and segment - Pearl River Basin, Subsegment No. 090101

G. Effluent Data - The effluent data are contained in Appendix C.

VIII. Current Effluent Limits:

See Appendix E - LPDES permit limits

IX. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

A. <u>Outfall 001</u>

The permittee's request for 2 sets of limits; one based on existing production and the other based on future projected Phase I Increased Production is not granted. The permittee submitted revised production data based on the highest month's production in the last 5 years plus expected increase in production for 2005. The future projected Phase I Increase Production rate is only 7% greater than the revised production rate, and therefore does not warrant a separate set of limits.

The BOD_5, TSS, Oil and Grease, and toxic organic mass limits are more stringent due to a decrease in the permittee's process wastewater flow.

The permittee's request for a reduction in biomonitoring from quarterly to annually is not granted. However, the permit provides for a reduction in biomonitoring if there are no significant lethal or sub-lethal effects demonstrated at or below the critical dilution during the first four quarters of testing.

B. A special monitoring and reporting requirement is established in Part II of the permit to obtain site-specific hardness and total and dissolved copper and zinc data for future reasonable potential analyses of water quality-based limits. Monitoring is to be conducted at Outfall 001 and in the receiving stream mixing zone at a location to be determined after consultation with LDEQ. Monitoring shall begin in the fourth (4th) year of the permit at a frequency of once per month for one (1) year.

C. The daily average statistical basis documented on the effluent limitation pages of the current LPDES permit have been changed to read monthly average instead of daily average.

D. The monitoring frequency for pH has been changed from 3/week to continuously. Part II conditions for monitoring pH continuously have been added to the draft permit. Due to the change in monitoring frequency for pH, a compliance schedule has been established in Part I and II of the draft permit to give the permittee six (6) months to install a continuous pH monitoring device.

E. The facility discharges to a 303(d) stream. Therefore, a reopener clause has been added to Part II of the permit in the event that the permit requires reassessment regarding 303(d) status resulting in incorporation of the results of any Total Maximum Daily Load (TMDL) allocation for the receiving water body.

X. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgement) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII.

1. Outfall 001 - Treated combined process wastewater from the kraft pulp and paper mill, linerboard mill, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant; container plant wastewater; boiler and cooling tower blowdown; sludge dewatering liquid; lime kiln scrubber and boiler scrubber wastewater; miscellaneous wastewaters (comprised of wastewater from shops and offices); sanitary wastewater; and process area stormwater

Flow (MGD)- Report, monthly average and daily maximum
pH (s.u.) - 6.0 - 9.0, subject to the excursion provisions for continuously monitored pH

The permittee is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) effluent limitation guidelines listed below:

Manufacturing Operation	Guideline
Pulp, Paper and Paperboard	40 CFR 430, Subparts C and J
Organic Chemicals, Plastics and Synthetic Fibers	40 CFR 414, Subparts H and I

Calculations and basis of permit limitations are found in Appendices A-1 through A-3. See below for site-specific considerations.

Site-Specific Considerations

Trichlorophenol and Pentachlorophenol

No limits or monitoring requirements for trichlorophenol and pentachlorophenol have been established because the facility does not use chlorophenolc-containing biocides.

Stormwater

Process area stormwater included as a part of the process wastewater stream receives allocations in accordance with pulp and paper effluent guidelines as shown at Appendix A. Process area stormwater associated with the dimethyl sulfide and dimethylsulfoxide chemical manufacturing plant plant did not receive allocations for toxic pollutants from the OCPSF effluent guidelines based on a BPJ determination that no potential exists for this stormwater to contain the OCPSF regulated toxic pollutants.

Oil and Grease

A maximum Oil and Grease limit is established by BPJ based on the 1995 LPDES permit, using a flow of 22.4 MGD and a concentration of 15 mg/L.

Sanitary Wastewaters

Sanitary wastewater that is included as a part of the process wastewater stream did not receive BPJ allocations for BOD_5 and TSS loadings to the process wastewaters in Appendix A.

pH

The monitoring frequency for pH has been changed from 3/week to continuously. Part II conditions for monitoring pH continuously have been added to the draft permit. Due to the change in monitoring frequency for pH, a compliance schedule has been established in Part I and II of the draft permit to give the permittee six (6) months to install a continuous pH monitoring device.

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any

state water quality standard." Calculations, results, and documentation are given in Appendices B-1 through B-2.

Site-specific "total to dissolved" ratios for copper and zinc have been applied instead of the default linear partitioning coefficient. Site-specific effluent hardness data have been used in the calculations in Appendix B-1. These site-specific data were submitted by the permittee on February 10, 1998 (Schurtz, C-K Associates to Aydell, LDEQ) in support of a major modification to the 1995 LPDES permit (effective November 1, 1998). This site-specific data was collected for 12 months in 1996. In lieu of any more recent data, this 1996 data is being used; however, a special monitoring and reporting requirement has been established in Part II of the permit to obtain updated site-specific hardness and total and dissolved copper and zinc data for future evaluations of water quality-based limits.

The following pollutants received water quality based effluent limits:

Hexachlorobenzene

Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001. They are also listed in Part II of the permit.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, September 27, 2001.

TMDL Waterbody (Pearl River, Subsegment No. 090101, Pearl River Basin)

Subsegment No. 090101 of the Pearl River Basin is listed on the Final 2004 303(d) List as impaired with mercury and pathogen indicators. To date, no Total Maximum Daily Loading (TMDL) assessments have been completed for this waterbody. TMDLs for mercury and pathogen indicators for this waterbody are scheduled for completion in 2008-2009. A reopener clause has been established in Part II of the permit to allow for more stringent or additional limitations or requirements to be placed in the permit, if needed, as a result of the TMDLs.

Pathogen Indicators

Based on the low fecal coliform effluent concentration (50 col/100 mL) provided in the permit application and the low ratio of sanitary wastewater to total wastewater flow (0.1% of total wastewater flow is sanitary wastewater), it was determined that the permittee's sanitary

wastewater is not being discharged at a level which would cause or have a reasonable potential to cause or contribute to an effluent violation above any present state water quality standard. Therefore, no fecal coliform limits have been added to the draft permit.

Mercury

Based on the effluent analysis submitted in the permit application, which showed no presence of mercury in the effluent (i.e. reported as non-detect at the MQL), it was determined that the permittee does not have the potential to discharge mercury into the receiving water body. Consequently, no mercury limits have been added to the draft permit.

D. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols. See Appendix D for the Biomonitoring Recommendation.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity. The biomonitoring procedures stipulated as a condition of this permit for Outfall 001 are as follows:

TOXICITY TESTS	FREQUENCY
Chronic static renewal 7-day survival and reproduction test using Ceriodaphnia dubia [Method 1002.0]	1/quarter
Chronic static renewal 7-day larval survival and growth test using fathead minnow (Pimephales promelas) [Method 1000.0]	1/quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents -and Receiving Waters to Freshwater Organisms, EPA/600/4-89/001, March 1989." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the

requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and alkalinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 10%, 8%, 6%, 4%, and 3%. The low-flow effluent concentration (critical dilution) is defined as 8% effluent.

E. MONITORING FREQUENCIES

Regulations require permits to establish monitoring requirements to yield data representative of the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)]. All monitoring frequencies are based upon best professional judgement and/or consistent with frequencies established in the current LPDES permit.

1. Outfall 001 - Treated combined process wastewater from the kraft pulp and paper mill, linerboard mill, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant; container plant wastewater; boiler and cooling tower blowdown; sludge dewatering liquid; lime kiln scrubber and boiler scrubber wastewater; miscellaneous wastewaters (comprised of wastewater

from shops and offices); sanitary wastewater; and process area stormwater

Flow shall be monitored continuously. The monitoring frequency for pH has been changed from 3/week to continuously. A compliance schedule has been established in Part I and II of the draft permit to give the permittee six (6) months to install a continuous pH monitoring device. The following pollutants are to be monitored 3 times/week. The monitoring frequency is established by BPJ based on the 1995 LPDES permit.

Parameters:
BOD_5
TSS

The following pollutants are to be monitored once per quarter. The monitoring frequency for Oil and Grease is established by BPJ based on the 1995 LPDES permit.

Parameter:
Oil and Grease

Those toxic pollutants not expected to be on-site or indicated as being discharged well below the permit limits are proposed to be monitored once per year.

A special monitoring requirement is established in Part II of the permit to obtain site-specific hardness and total and dissolved copper and zinc data for a reasonable potential analysis. The following pollutants are to be monitored once per month beginning in the fourth (4th) year of the permit for one (1) year at two (2) locations, one location is Outfall 001 and the other location is in the receiving stream mixing zone at a location to be determined after consultation with LDEQ.

Parameters:
Hardness
Dissolved Copper
Total Copper
Dissolved Zinc
Total Zinc

The data shall be reported in the permittee's renewal application for a LPDES permit.

Those toxic pollutants not expected to be on-site or indicated as being discharged well below the permit limits are proposed to be monitored once per year.

XI. Compliance History/DMR Review:

A. LDEQ records were reviewed for the period from January 2003 through September 2005. Following a multi-media inspection in August 2001 that noted violations of air, water, hazardous waste, radiation protection and solid waste regulations, the permittee entered into a Settlement Agreement signed June 9, 2003, and agreed to a penalty and to taking corrective actions. A June 5, 2003 inspection found all corrective actions had been taken.

B. A file review of the monitoring reports for the period of January 2003 through August 2005 revealed that there were no effluent violations.

C. The most recent inspection was performed on November 16, 2004. No areas of concern were found during the course of the inspection.

IX. Endangered Species:

The receiving waterbody, Subsegment No. 090101 of the Pearl River Basin, has been identified by the U.S. Fish and Wildlife Service (FWS) as habitat for the Ringed Sawback Turtle and Gulf Sturgeon, which are listed as a threatened species. This draft permit has been submitted to the FWS for review in accordance with a letter dated October 21, 2005 from Watson (FWS) to Gautreaux (LDEQ). As set forth in the Memorandum of Understanding between the LDEQ and the FWS, and after consultation with FWS, LDEQ has determined that the issuance of the LPDES permit is not likely to have an adverse effect upon the Ringed Sawback Turtle and Gulf Sturgeon. Effluent limitations are established in the permit to ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. The more stringent of technology and water quality based limits (as applicable) have been applied to ensure maximum protection of the receiving water.

X. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XI. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to reissue a permit for the discharge described in the application.

XII. Variances:

No requests for variances have been received by this Office.

XIII. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheetstatement of basis. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspapers of general circulation

Office of Environmental Services Public Notice Mailing List

Appendix A

Appendix A-1
Gaylord Container Corporation d/b/a Temple Inland Paperboard and Packaging, Inc.
Bogalusa Mill
LA0007901, AI No. 38936

Technology-Based Limits for Outfall 001

Production By Subpart (1000 lbs/day) (*1)

Subpart C - Unbleached Kraft	
40 CFR 430.33 BCT	4,600
Subpart J - Secondary Fiber Non-deink	
40 CFR 430.103 BCT	1,728

	Production-Based Factor Monthly Average (lb/1000 lbs)	Production-Based Factor Daily Maximum (lb/1000 lbs)	Allocation Monthly Average (lbs/day)	Allocation Daily Maximum (lbs/day)
Subpart C - BPT (*2)				
BOD5	2.8	5.6	12,880	25,760
TSS	6.0	12.0	27,600	55,200
Subpart J - BPT (*2)				
BOD5	2.8	5.7	4,838	9,850
TSS	4.6	9.2	7,949	15,898

	BAT Limitations Monthly Average (mg/L)	BAT Limitations Daily Maximum (mg/L)	Allocation Monthly Average (lbs/day)	Allocation Daily Maximum (lbs/day)
Subpart H - BPT (*3)				
Specialty Organic Chemicals				
40 CFR 414.81				
BOD5	45	120	244	651
TSS	57	183	309	992

Proposed Effluent Limits

	Mass Limit (lbs/day) Monthly Average	Mass Limit (lbs/day) Daily Maximum
BOD5	17,962	36,261
TSS	35,858	72,090

Oil and Grease Limit (*4)

	Mass Limit (lbs/day) Monthly Average	Mass Limit (lbs/day) Daily Maximum
	N/A	2,802

(*1) Production allocations were provided in a supplemental application addendum dated September 1, 2004.
(*2) Allocations (lbs/day) = Guideline Production-Based Factor (lb/1000 lbs) * Production Allocation (1000 lbs/day)
(*3) Allocations (lbs/day) = BAT Limitation (mg/L) * 8.34 (lb/MG)/(mg/L) * 0.65 MGD
(*4) Limit derived from: lbs/day = 15 mg/L * 8.34 (lb/MG)/(mg/L) * 22.4 MGD

10/24/2005 Calculation of Technology Based Limits for Gaylord Container Corporation

(*1) TABLE 1

Permittee:	Gaylord Container Corporation		
Permit Number:	LA0007901, AI No. 39836		
Appendix	Appendix A-2		
[] Flow Basis 1=proc, 0=all	0		
Concentration flow, (MGD)	---		
GL vs Old, 0=n, 1=y, 2=GL+Old	1		
Outfall number	Out. 001		
Deepwell fract., 40 CFR 122.50			
(*2)			
OCPSF Subpart I=1, J=2	1		
OCPSF PROCESS FLOW CALCULATION:	MGD	gpm	
Chemical Plant	0.65		
TOTAL PROCESS FLOW:	0.65	---	
BOD5/TSS BPJ ALLOCATION FLOWS:	MGD	gpm	
SANITARY WW:			
MISCELLANEOUS:	MGD	gpm	
TOTAL MISCELLANEOUS FLOWS:	---	---	
UTILITY WASTEWATER:	MGD	gpm	
TOTAL UTILITY WW FLOWS:	---	---	
TOTAL OCPSF+BPJ FLOW:	0.65	---	

(*3) Fraction of OCPSF Conc. or BPJ []

Fract =0, []=1	0	BOD,avg	BOD,max	TSS,avg	TSS,max
Miscellaneous WW		0.5	0.5	0.5	0.5
Misc. WW, mg/L		5	10	10	20
Utility WW		0.25	0.25	0.25	0.25
Utility WW, mg/L		5	10	10	20
Sanitary, mg/L		30	45	30	45

(*4)

Metal+CN Flows:	MGD	gpm
Total Chromium		
Total Copper		
Total Lead		
Total Nickel		
Total Zinc		
Total Cyanide		

(*5)

OCPSF Guideline Subpart:	Prod. 1000 lbs per day	Prod. Fraction of Total
B, Rayon Fibers		---
C, Other Fibers		---
D, Thermoplastic Resins		---
E, Thermosetting Resins		---
F, Commodity Organics		---
G, Bulk Organics		---
H, Specialty Organics		1
Total:	---	1

(*6)

COD & TOC Ratios:	Average	Maximum
COD/BOD5 ratio		
TOC/BOD5 ratio		
COD, TOC, O&G []:	Average	Maximum
COD, mg/L		
TOC, mg/L		
O&G, mg/L		

(*7) INORGANIC GUIDELINES:

New Source 1=y 0=n	0	Prod.			OCPSF BOD5	
0 Fraction=0, []=1	0	1000 lbs	Flow	Flow	OCPSF Fraction	
40 CFR 415		per day	MGD	gpm	Avg	Max
40 CFR 415.63 Mercury					1	1
40 CFR 415.63 Diaphragm					1	1
					1	1
					1	1

(*8)

OCPSF Alternate Flows:	MGD
Conventionals:	
Organic Toxics:	---
Process Waste Water	
Process Stormwater	

(*9)

Page and Table Numbering	1=y, 0=n
1st Input Page	1
2nd Input Page	0
OCPSF	1
SS Metals	0
Inorganic	0
Fertilizer	0
Pesticides	0
COD/TOC/O&G Tbl	0
BOD/TSS Tbl	1
Table Designation Sequence	
Pesticides &OCPSF	0
PestMetal 1=y, 0=n	0

(*10)

Flow MGD	COD and TOC limits, precalc	
---	COD,Avg (lbs/day)	0
---	COD,Max (lbs/day)	0
---	TOC,Avg (lbs/day)	0
	TOC,Max (lbs/day)	0

Conversion Factors:

Conv mg/L-->lbs/da	8.34
Conv ug/L-->mg/L:	0.0001
Conv gpm-->MGD:	0.00144

OCPSF+Inorganic 0.65

Calculation of Technology Based Limits for Gaylord Container Corporation

Outfall 001

Conventional pollutant loading calculations, BOD5 and TSS

TABLE 2

Calculation of BOD5, and TSS limits:

(*1)	(*2)	(*3)	(*4)	(*5)	(*6)	(*7)	(*8)	(*9)	(*10)	(*11)	(*12)	(*13)
OCPSF GL 40 CFR 414	BOD5	BOD5	TSS	TSS	Prod.	Prod.	Process	Conv.	BOD5	BOD5	TSS	TSS
Subpart:	Avg	Max	Avg	Max	1000 lbs	Fraction	Flow	Factor	Avg	Max	Avg	Max
	mg/L	mg/L	mg/L	mg/L	per day	of Total	(MGD)		lbs/day	lbs/day	lbs/day	lbs/day
B, Rayon Fibers							---	8.34	---	---	---	---
C, Other Fibers							---	8.34	---	---	---	---
D,Thermoplastic Resins							---	8.34	---	---	---	---
E,Thermosetting Resins							---	8.34	---	---	---	---
F, Commodity Organics							---	8.34	---	---	---	---
G, Bulk Organics							---	8.34	---	---	---	---
H, Specialty Organics	45	120	57	183		1	0.65	8.34	243.945	650.52	308.997	992.043
Total/Weighted[]	45	120	57	183		1	0.65	8.34	243.945	650.52	308.997	992.043
BPJ Sources/Guidelines	BOD5	BOD5	TSS	TSS				Conv.	BOD5	BOD5	TSS	TSS
	Avg	Max	Avg	Max			Flow	Factor	Avg	Max	Avg	Max
BPJ Sources:	mg/L	mg/L	mg/L	mg/L			(MGD)		lbs/day	lbs/day	lbs/day	lbs/day
Sanitary WW:							---	8.34	---	---	---	---
Miscellaneous:							---	8.34	---	---	---	---
Utility Wastewater:							---	8.34	---	---	---	---
							---	8.34	---	---	---	---
							---	8.34	---	---	---	---
							---	8.34	---	---	---	---
BPJ Source Total:							---		---	---	---	---
Other Guidelines:	BOD5	BOD5	TSS	TSS	Prod.	Flow to		Conv.	BOD5	BOD5	TSS	TSS
Inorganic	Avg	Max	Avg	Max	1000 lbs	Tmt. Plt.	Flow	Factor	Avg	Max	Avg	Max
40 CFR 415	mg/L	mg/L	lbs/1000	lbs/1000	per day	Fraction	(MGD)		lbs/day	lbs/day	lbs/day	lbs/day
					---	---	---	8.34	---	---	---	---
					---	---	---	8.34	---	---	---	---
					---	---	---	8.34	---	---	---	---
					---	---	---	8.34	---	---	---	---
	BOD5	BOD5	TSS	TSS	Prod.	Flow to			BOD5	BOD5	TSS	TSS
	Avg	Max	Avg	Max	1000 lbs	Tmt. Plt.	Flow		Avg	Max	Avg	Max
	lbs/1000	lbs/1000	lbs/1000	lbs/1000	per day	Fraction	(MGD)		lbs/day	lbs/day	lbs/day	lbs/day
					---	---	---		---	---	---	---
					---	---			---	---	---	---
					---	---			---	---	---	---
Other Guideline Total (lbs/day)							---		---	---	---	---
BOD5/TSS Grand Total (lbs/day)							0.65		243.945	650.52	308.997	992.043

Calculation of Technology Based Limits for Gaylord Container Corporation

Outfall 001

TABLE 3

Calculation Summary of Conventional and Non-Conventional Limits

(*1) Parameter	(*2) G/L-BPJ Avg. mg/L	(*3) G/L-BPJ Max mg/L	(*4) Process Flow (MGD)	(*5) G/L-BPJ Avg lbs/day	(*6) G/L-BPJ Max lbs/day	(*7) Tech Old Avg lbs/day	(*8) Tech Old Anti-Back Max0=no scr. lbs/day1=OldvsGL 2=Old+GL	(*9) Outfall 0 Avg lbs/day	(*10) Outfall 0 Max lbs/day	(*11) Outfall 0 Avg mg/L	(*12) Outfall 0 Max mg/L
CONVENTIONAL											
BOD5				243.945	650.52		---	244	651	---	---
TSS				308.997	992.043		---	309	992	---	---
Oil and Grease				---	---		---	---	---	---	---
NON-CONVENTIONAL											
COD				---	---		---	---	---	---	---
TOC				---	---		---	---	---	---	---
TRC				---	---		---	---	---	---	---
Ammonia Nitrogen				---	---		---	---	---	---	---
Organic Nitrogen				---	---		---	---	---	---	---
Nitrate Nitrogen				---	---		---	---	---	---	---

Calculation Summary of Metal and Cyanide Toxic Limits

(*1)	(*2) G/L-BPJ Avg. mg/L	(*3) G/L-BPJ Max mg/L	(*4) Process Flow (MGD)	(*5) G/L-BPJ Avg lbs/day	(*6) G/L-BPJ Max lbs/day	(*7) Tech Old Avg lbs/day	(*8) Tech Old Anti-Back Max0=no scr. lbs/day1=OldvsGL 2=Old+GL	(*9) Outfall 0 Avg lbs/day	(*10) Outfall 0 Max lbs/day	(*11) Outfall 0 Avg mg/L	(*12) Outfall 0 Max mg/L
METALS AND CYANIDE											
Total Chromium				---	---		---	---	---	---	---
Total Copper				---	---		---	---	---	---	---
Total Lead				---	---		---	---	---	---	---
Total Nickel				---	---		---	---	---	---	---
Total Zinc				---	---		---	---	---	---	---
Total Mercury				---	---		---	---	---	---	---
Total Cyanide				---	---		---	---	---	---	---
Amenable Cyanide				---	---		---	---	---	---	---
				---	---		---	---	---	---	---
				---	---		---	---	---	---	---
				---	---		---	---	---	---	---

Calculation of Technology Based Limits for Gaylord Container Corporation

Outfall 001

Calculation of Toxic Limits, OCPSF Subpart I

TABLE 4

(*1) OCPSF Parameter Subpart I	(*2) G/L Val Avg. mg/L	(*3) G/L Val Max mg/L	(*4) Process Flow (MGD)	(*5) G/L Val Avg lbs/day	(*6) G/L Val Max lbs/day	(*7) Tech Old Avg lbs/day	(*8) Tech Old G/L-BPJ Max0=no scr. lbs/day1=OldvsGL 2=Old+GL	(*9) Outfall 0 Avg lbs/day	(*10) Outfall 0 Max lbs/day	(*11) Outfall 0 Avg mg/L	(*12) Outfall 0 Max mg/L
VOLATILE COMPOUNDS											
Acrylonitrile	0.096	0.242	0.65	0.520416	1.311882		---	0.52	1.31	---	---
Benzene	0.037	0.136	0.65	0.200577	0.737256		---	0.20	0.74	---	---
Carbon Tetrachloride	0.018	0.038	0.65	0.097578	0.205998		---	0.10	0.21	---	---
Chlorobenzene	0.015	0.028	0.65	0.081315	0.151788		---	0.08	0.15	---	---
Chloroethane	0.104	0.268	0.65	0.563784	1.452828		---	0.56	1.45	---	---
Chloroform	0.021	0.046	0.65	0.113841	0.249366		---	0.11	0.25	---	---
1,1-Dichloroethane	0.022	0.059	0.65	0.119262	0.319839		---	0.12	0.32	---	---
1,2-Dichloroethane	0.068	0.211	0.65	0.368628	1.143831		---	0.37	1.14	---	---
1,1-Dichloroethylene	0.016	0.025	0.65	0.086736	0.135525		---	0.09	0.14	---	---
1,2-trans-Dichloro-ethylene	0.021	0.054	0.65	0.113841	0.292734		---	0.11	0.29	---	---
1,2-Dichloropropane	0.153	0.23	0.65	0.829413	1.24683		---	0.83	1.25	---	---
1,3-Dichloropropylyene	0.029	0.044	0.65	0.157209	0.238524		---	0.16	0.24	---	---
Ethylbenzene	0.032	0.108	0.65	0.173472	0.585468		---	0.17	0.59	---	---
Methyl Chloride	0.086	0.19	0.65	0.466206	1.02999		---	0.47	1.03	---	---
Methylene Chloride	0.04	0.089	0.65	0.21684	0.482469		---	0.22	0.48	---	---
Tetrachloroethylene	0.022	0.056	0.65	0.119262	0.303576		---	0.12	0.30	---	---
Toluene	0.026	0.08	0.65	0.140946	0.43368		---	0.14	0.43	---	---
1,1,1-Trichloroethane	0.021	0.054	0.65	0.113841	0.292734		---	0.11	0.29	---	---
1,1,2-Trichloroethane	0.021	0.054	0.65	0.113841	0.292734		---	0.11	0.29	---	---
Trichloroethylene	0.021	0.054	0.65	0.113841	0.292734		---	0.11	0.29	---	---
Vinyl Chloride	0.104	0.268	0.65	0.563784	1.452828		---	0.56	1.45	---	---
ACID COMPOUNDS											
2-Chlorophenol	0.031	0.098	0.65	0.168051	0.531258		---	0.17	0.53	---	---
2,4-Dichlorophenol	0.039	0.112	0.65	0.211419	0.607152		---	0.21	0.61	---	---
2,4-Dimethylphenol	0.018	0.036	0.65	0.097578	0.195156		---	0.10	0.20	---	---
4,6-Dinitro-o-cresol	0.078	0.277	0.65	0.422838	1.501617		---	0.42	1.50	---	---
2,4-Dinitrophenol	0.071	0.123	0.65	0.384891	0.666783		---	0.38	0.67	---	---
2-Nitrophenol	0.041	0.069	0.65	0.222261	0.374049		---	0.22	0.37	---	---
4-Nitrophenol	0.072	0.124	0.65	0.390312	0.672204		---	0.39	0.67	---	---
Phenol	0.015	0.026	0.65	0.081315	0.140946		---	0.08	0.14	---	---

Calculation of Technology Based Limits for Gaylord Container Corporation

Outfall 001

Calculation of Toxic Limits, OCPSF Subpart I

TABLE 4

(*1) OCPSF Parameter Subpart I	(*2) G/L Val Avg. mg/L	(*3) G/L Val Max mg/L	(*4) Process Flow (MGD)	(*5) G/L Val Avg lbs/day	(*6) G/L Val Max lbs/day	(*7) Tech Old Avg lbs/day	(*8) Tech Old Max lbs/day	(*9) Anti-Back 0=no scr. 1=OldvsGL 2=Old+GL	(*10) Outfall 0 Avg lbs/day	(*11) Outfall 0 Max lbs/day	(*12) Outfall 0 Avg mg/L	(*13) Outfall 0 Max mg/L
BASE/NEUTRAL COMPOUNDS												
Acenaphthene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Acenaphthylene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Anthracene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Benzo(a)anthracene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Benzo(a)pyrene	0.023	0.061	0.65	0.124683	0.330681			---	0.12	0.33	---	---
3,4-Benzofluoranthene	0.023	0.061	0.65	0.124683	0.330681			---	0.12	0.33	---	---
Benzo(k)fluoranthene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Bis(2-ethylhexyl)-phthalate	0.103	0.279	0.65	0.558363	1.512459			---	0.56	1.51	---	---
Chrysene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
1,2-Dichlorobenzene	0.077	0.163	0.65	0.417417	0.883623			---	0.42	0.88	---	---
1,3-Dichlorobenzene	0.031	0.044	0.65	0.168051	0.238524			---	0.17	0.24	---	---
1,4-Dichlorobenzene	0.015	0.028	0.65	0.081315	0.151788			---	0.08	0.15	---	---
Diethyl phthalate	0.081	0.203	0.65	0.439101	1.100463			---	0.44	1.10	---	---
Dimethyl phthalate	0.019	0.047	0.65	0.102999	0.254787			---	0.10	0.25	---	---
Di-n-butyl phthalate	0.027	0.057	0.65	0.146367	0.308997			---	0.15	0.31	---	---
2,4-Dinitrotoluene	0.113	0.285	0.65	0.612573	1.544985			---	0.61	1.54	---	---
2,6-Dinitrotoluene	0.255	0.641	0.65	1.382355	3.474861			---	1.38	3.47	---	---
Fluoranthene	0.025	0.068	0.65	0.135525	0.368628			---	0.14	0.37	---	---
Fluorene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Hexachlorobenzene	0.015	0.028	0.65	0.081315	0.151788			---	0.08	0.15	---	---
Hexachlorobutadiene	0.02	0.049	0.65	0.10842	0.265629			---	0.11	0.27	---	---
Hexachloroethane	0.021	0.054	0.65	0.113841	0.292734			---	0.11	0.29	---	---
Naphthalene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Nitrobenzene	0.027	0.068	0.65	0.146367	0.368628			---	0.15	0.37	---	---
Phenanthrene	0.022	0.059	0.65	0.119262	0.319839			---	0.12	0.32	---	---
Pyrene	0.025	0.067	0.65	0.135525	0.363207			---	0.14	0.36	---	---
1,2,4-Trichlorobenzene	0.068	0.14	0.65	0.368628	0.75894			---	0.37	0.76	---	---

Documentation and Explanation of Technology Calculations
and Associated Lotus Spreadsheet

This spreadsheet covers the following guideline: 40 CFR 414, Organic Chemicals, Plastics, and Synthetic Fibers, (OCPSF). Other guidelines maybe included on a case-by-case basis. Regulations at 40 CFR 144(a)/LAC 33.IX.2707 require that technology-based permit limitations be placed in permits based on effluent limitations guidelines where applicable, on Best Professional Judgement (BPJ) in the absence of guidelines or on a combination of the two. Best Available Technology Economically Achievable (BAT) guideline factors and concentrations are used for non-conventional and toxic pollutants. In the absence of BAT, Best Conventional Pollutant Control Technology (BCT) is used for non-conventional pollutants. In the absence of either BAT or BCT, Best Practicable Control Technology (BPT) is used for conventional and non-conventional pollutants. BPT is used for conventional pollutants. New Source Performance Standards (NSPS) are used as the situation dictates, however in the case of the OCPSF guidelines, NSPS=BAT. In the absence of an applicable guideline for a particular parameter, BPJ shall be utilized. The term, "monthly average" or "average", refers to the 30-day monthly average of daily maximum values, "daily maximum" or "maximum", refers to the maximum for any one day. The term, "previous permit", refers to the most recently issued NPDES or LPDES permit. If the previous permit did not give a BPJ allowance for particular wastewater, none will be granted in the reissuance in accordance with CWA 402(o), and 40 CFR 122.44.l/LAC 33.IX.2707.L. The spreadsheet is set up in a table and column/section format. Each table represents a general category for data input or calculation points. Each reference column or section is marked by a set of parentheses enclosing a number and asterisk, for example (*1) or (*10). These columns or sections represent inputs, existing data sets, calculation points, or results for determining technology based limits for an effluent of concern.

Table 1

Table 1 is the data input area for the OCPSF guidelines, Sections (*2), (*3), (*4), (*5), (*6), (*8), and (*10). There are no inorganic loading contributions for this outfall, subsequently all input/calculation areas addressing inorganic guidelines are left blank. The Page and Table numbering sequence section, Section (*9) is used for applicable guideline(s) as well as the generalized input information in Section (*1).

(*1) General input information:

Permittee - permittee name.

Permit Number- LPDES permit number.

Appendix- Appendix designation for the header.

[1 Flow Basis 1=proc, 0=all- if the flow basis for concentration limits is the same as the process flow in determining mass limits, then a "1" is placed in the designated cell. A "0" indicates the total outfall flow will be used in determining concentration based limits. See Concentration flow (MGD).

Concentration flow (MGD)- flow used for calculating concentration based limits in MGD.

GL vs Old, 0=n, 1=y, 2=GL+Old- this is the anti-backsliding (40 CFR 122.44.l, LAC 33.IX.2707.L) screening designation switch. "Old" represents the previous permit limit established by Best Professional Judgement (BPJ), which is now BAT for that facility, and "GL" represents the current guideline calculation. If the screen indicates that the previously established limitation is more stringent, but there has been an increase in production, another spreadsheet can be run giving guideline allowances for the production increase by putting a "2" in the specified cell. This cell sets a default for all anti-backsliding throughout the spreadsheet, but different options can be selected on a parameter specific basis.

Outfall number- Outfall number is placed in the designated cell, the default is "Out. 001", abbreviated due to space limitations in other portions of the spreadsheet.

Deepwell fract., 40 CFR 122.50/LAC 33:IX.2717- this applies to any situation where a discharger that falls under mass based guidelines or mass based BPJ and is discharging a portion of their wastewater to a surface water receiving stream and the remaining portion to a deepwell (most common in La.), POTW, offsite disposal, etc. The facility's mass based limitations must be reduced by the fraction of water not being discharged to the surface water receiving the discharge. Flow based guideline effluent limitations and associated BPJ will receive adjustments in their source flows.

(*2) OCPSF Flow Calculations- OCPSF flow calculations are divided into four basic categories, 1) process, 2) sanitary wastewater, 3) miscellaneous flows, and 4) utility wastewater. Additional flows may be entered as needed. Flows can either be entered as MGD or gpm units in the designated column. The process flow is used to calculate organic toxic limitations if the facility's annual production exceeds 5 million pounds per year of final product. Process flow includes flows generated by the manufacturing process, process area stormwater, and process lab water as stated in 40 CFR 414. Other flows, such as groundwater remediation wastewater, are considered as process wastewaters on a BPJ basis. Additional flows such as utility, sanitary, and miscellaneous wastewaters are used in determining additional BPJ allocations for BOD_5 and TSS limitations, but not toxics. Miscellaneous wastewater includes, but is not limited to, wastewaters from tank farms or chemical storage areas or uncontaminated stormwater. Utility wastewater includes, but is not limited to, non-contact cooling tower blowdown, boiler blowdown, filter backwash, etc.

(*3) Fraction of OCPSF Conc. or BPJ []. Utility, Miscellaneous and other wastewaters contribute BOD_5 and TSS loadings to the process outfall if these wastewaters are discharged through the process outfall. For

miscellaneous wastewaters, a BPJ determination has been made that these wastewaters receive 50% of the production weighted OCPSF concentrations for BOD_5 and TSS. For utility wastewaters, a BPJ determination has been made that these wastewaters receive 25% of the production weighted OCPSF concentrations for BOD_5 and TSS. Sanitary wastewaters shall receive BOD_5 and TSS allocations of 30 mg/L, average, and 45 mg/L, maximum, as treatment equivalent to secondary treatment (LAC 33.IX.711.D). Other wastewaters shall be approached on a case-by-case basis. Anti-backsliding concerns and/or a previous permit may preclude the usage of the weighted OCPSF concentrations described above. Different BOD_5 and TSS fractions may be used as the situation dictates. If the previous permit contains other concentrations, they may be utilized instead of fractions of production weighted OCPSF concentrations.

(*4) Metal+CN Flow- The OCPSF guidelines specify that only a specific metal bearing wastestream shall receive allowances under the guideline (40 CFR 414.90, 414.100). However, through experience, it has been determined that there are several other potential sources of metals through out a facility other than from a catalyst in a metal bearing wastestream especially in an acidic wastestream. Examples of these sources include reaction vessels and equipment, piping, cooling towers, boilers, raw contaminants, etc. In consideration of these factors, the whole toxics process flow is utilized per BPJ in the calculation of metal limits unless anti-backsliding concerns (40 CFR 122.44.l, LAC 33.IX.2707.L) and/or a previous permit prescribe the use of a lesser flow. For situations where site-specific metal bearing flows (BPJ and OCPSF guideline) need to be calculated, the "Site-Specific Metal, Cyanide, and Total Residual Chlorine (TRC) Bearing Flows" table is used. Flow is entered in MGD or gpm under the specified column on the row(s) containing the metal(s) of concern.

(*5) OCPSF Guideline Subpart- BOD_5 and TSS mass limitations are calculated using a production weighted concentration. Organic chemical production figures in 1000/lbs day or production fractions of the total may be entered on the row(s) with the indicated subpart under the designated column. The production fraction will be used more frequently as many companies consider production information confidential. If a facility manufactures under only one subpart, then the production fraction shall be unity (1).

(*6) COD & TOC Ratios/COD, TOC, O&G [1]- Under the ratio section, it may be necessary to determine COD or TOC BPJ loadings based on BOD_5 limitations or loadings. The appropriate ratios are entered in the indicated cells. BPJ loadings for COD, TOC, and Oil and Grease (O&G) may also be determined on a concentration basis. Concentrations and flows are entered in the indicated cells. The ratios/concentrations are usually based on the previously issued permit, if one exists. If this is a new permit issuance or major modification involving a new unit, then the ratios/concentrations are usually based on similarly permitted facilities.

(*7) Inorganic Effluent Guidelines (40 CFR 415)- Not applicable to this outfall.

(*8) OCPSF Alternate Flows- On a case-by-case basis it may be necessary to utilize an alternate flow for the calculation of the conventional pollutants BOD_5 and TSS loadings or the calculation of the organic toxic loadings. This will most commonly occur in cases where a deepwell is being eliminated. Units are in MGD.

(*9) Page and Table numbering sequence- This section shall be used for all guideline calculations and combinations. The user can specify that the spreadsheet number the pages and tables in accordance with the guidelines/tables being used. Unused pages and tables are numbered "0". This section also controls the printing of the spreadsheet; non-numbered pages are not printed.

(*10) Precalculated COD and TOC limits- Occasionally it may be necessary to incorporate a precalculated technology-based limit for TOC or COD based on DMR's or other sources, such as a previously issued permit. These values are entered in the designated cells.

Table 2

Table 2 is a calculation table for the conventional pollutant loadings of BOD_5 and TSS utilizing guidelines and BPJ.

(*1) The top portion of the table lists OCPSF subparts under 40 CFR 414. The bottom portion indicated by "Other Sources/Guidelines" lists non-guideline BPJ sources, sanitary wastewater, non-process area stormwater, miscellaneous wastewaters, utility wastewaters, under "Other Sources" and other contributing guidelines under "Other Guidelines".

(*2) Average BOD_5- Average BPT guideline concentrations in mg/L, lbs/1000 lbs of daily production, or BPJ concentrations in mg/L. Inorganic wastewaters typically receive a BPJ concentration consisting of 100% of the weighted concentration determined on the row labeled, "Total/Weighted[]". Different concentrations from these may be used on a case-by-case basis.

(*3) Maximum BOD_5- Maximum BPT guideline concentrations in mg/L, lbs/1000 lbs of daily production, or BPJ concentrations in mg/L. Inorganic wastewaters typically receive a BPJ concentration consisting of 100% of the weighted concentration determined on the row labeled, "Total/Weighted[]". Different concentrations from these may be used on a case-by-case basis.

(*4) Average TSS- Average BPT guideline concentrations in mg/L, lbs/1000 lbs of daily production, or BPJ concentrations in mg/L. Inorganic wastewater TSS limitations are calculated in accordance with 40 CFR 415, which are mass based effluent guidelines.

(*5) Maximum TSS- Maximum BPT guideline concentrations in mg/L, lbs/1000 lbs of daily production, or BPJ concentrations in mg/L. Inorganic wastewater TSS limitations are calculated in accordance with 40 CFR 415, which are mass based effluent guidelines.

(*6) Production in 1000 lbs/day- These values indicate the amount of production per subpart.

(*7) At the top of the table, Production fraction of total. These values are based on a fraction of total OCPSF production per subpart. If all OCPSF manufacturing falls under one subpart, the fraction shall be unity (1).

At the bottom of the table, Flow to Treatment Plant Fraction. Applicable to mass-based guidelines; if a portion of a process wastewater is being injected to a deepwell, POTW, or other non-surface water source, this represents the remaining fraction being discharged to the receiving water. This generally will not apply to facilities that fall exclusively under the OCPSF guidelines.

(*8) Flow- For the OCPSF guideline portion of the table (the upper portion), this is the process flow calculated in Table 1. Under "BPJ Sources/Guidelines", these are the other categorical BPJ flows calculated in Table 1. Under the "Other Guideline" section, this is the flow associated with the production under that guideline part or subpart. Flows associated with mass-based guidelines are not used in calculations.

(*9) Conversion factor- used in conjunction with flow (MGD) for converting mg/L to lbs per day, 8.34 lbs/gallon. Mg/L is assumed to be equivalent to ppm.

(*10) BOD_5, Average, lbs/day- For OCPSF guideline allocations the concentration in column (*2) is multiplied by the production fraction in column (*7), the flow in column (*8), the conversion factor in column (*9) yielding a monthly average BOD_5 loading applicable to that subpart. BPJ Source allocations are determined similarly to the OCPSF guideline allocations. The OCPSF guideline loadings are summed on the row with the label, "Total/Weighted[]." The BPJ Sources loadings including the OCPSF BPJ loadings are summed on the row labeled, "BPJ Source Total". Other Guideline contributions are summed on the line labeled "Other Guideline Total (lbs/day)". The grand total is on the indicated row and this is the technology limit for Monthly Average BOD_5.

(*11) BOD_5, Maximum, lbs/day- Similar to column (*10). See column (*10).

(*12) TSS, Average, lbs/day- For OCPSF guideline allocations the concentration in column (*4) is multiplied by the production fraction in column (*7), the flow in column (*8), the conversion factor in column (*9) yielding a monthly average BOD_5 loading applicable to that subpart.

BPJ Source allocations are determined similarly to the OCPSF guideline allocations. The OCPSF guideline loadings are summed on the row with the label, "Total/Weighted[]." The BPJ Sources loadings including the OCPSF BPJ loadings are summed on the row labeled, "BPJ Source Total". Other Guideline contributions are summed on the line labeled "Other Guideline Total (lbs/day)". The grand total is on the indicated row and this is the technology limit for Monthly Average TSS.

(*13) TSS, Maximum, lbs/day- Similar to column (*12). See column (*12).

Table 3

Table 3 is a calculation summary table for Conventional, Non-Conventional, and Toxic limits. If there is one consolidated OCPSF metal bearing waste stream per metal and this is the only metal source, then the guideline concentrations in columns (*2) (Daily Average) and (*3) (Daily Maximum) are multiplied times the flow in column (*4) times the conversion factor of 8.34 to yield daily average and daily maximum guideline loadings in lbs/day in columns (*5) and (*6), respectively.

(*1) Parameter- The parameters are organized into three groups, Conventional, Non-Conventional, and Metals and Cyanide.

(*2) Average guideline/BPJ value- Guideline or BPJ value in terms of concentration, mg/L. If there are multiple sources/allocations for the listed metals/cyanide, these values will not be indicated in this column. Single or consolidated metal/cyanide bearing waste streams (OCPSF only) will have values indicated in this column. Values will not be indicated for the conventional and non-conventional pollutants listed.

(*3) Maximum guideline/BPJ value- Guideline or BPJ value in terms of concentration, mg/L. If there are multiple sources/allocations for the listed metals/cyanide, these values will not be indicated in this column. Single or consolidated metal/cyanide bearing waste streams (OCPSF only) will have values indicated in this column. Values will not be indicated for the conventional and non-conventional pollutants listed.

(*4) Process flow in MGD- Similar to columns (*2) and (*3), this column will be left blank unless there is one consolidated metal/cyanide bearing waste stream.

(*5) Average Guideline/BPJ effluent limitation in lbs/day. Except for the metal/cyanide situation discussed in column (*2), these values are calculated in other tables and summarized in this column.

(*6) Maximum Guideline/BPJ effluent limitation in lbs/day. Similar to column (*5).

(*7) Average Tech Old in lbs/day- This column is utilized when an anti-backsliding concern (CWA 402(o), 40 CFR 122.44.l, LAC 33.IX.2707.L) is present. This would be indicated by significantly higher limits (≈10% or greater) calculated under guidelines than those previously established in the previous permit on a BPJ basis (now achievable technology, if the permittee is meeting the limits) before guideline issuance. If the previously issued permit (as applicable) contains limits for the parameter of concern and an anti-backsliding concern is present, the limits from the previously issued permit are placed in this column in lbs/day.

(*8) Maximum Tech Old in lbs/day- Similar to (*7).

(*9) Antiback, 0=no scr., 1=OldvsGL, 2=Old+GL- Anti-Backsliding screening switch. The default is set under section (*1) in Table 1. If a screen is conducted, a "1" will appear in this column. The more stringent permit limits will appear in columns (*10) and (*11). If the screen indicates that the previously issued permit limit utilizing BPJ-Technology is more stringent and an increase in production has occurred, the technology based limits can be recalculated by running the spreadsheet a second time using guidelines for the increase only. This will be indicated by a "2" in this column. The recalculated guideline limitations in columns (*4) and (*5) are subsequently added to the values in columns (*7) and (*8) yielding technology-based effluent limitations in columns (*10) and (*11). The values in this column can be changed on a row-by-row basis for site-specific screening situations.

(*10) Average technology based effluent limit in lbs/day- If no anti-backsliding screening is conducted then the value in this column will be equal to the value in column (*5). When anti-backsliding screening is used, see discussion for column (*9).

(*11) Maximum technology based effluent limit in lbs/day- If no anti-backsliding screening is conducted then the value in this column will be equal to the value in column (*6). When anti-backsliding screening is used, see discussion for column (*9).

(*12) Average technology based effluent limit in mg/L- A concentration limit can be calculated using the specified concentration flow from section (*1) in Table 1 and the mass limitation calculated under column (*10). The formula is as follows:

$$\frac{\text{effluent limit, lbs/day}}{\text{flow, MGD} * 8.34}$$

(*13) Maximum technology based effluent limit in mg/L- Similar to column (*11), a concentration limit can be calculated using the specified concentration flow from section (*1) in Table 1 and the mass limitation calculated under column (*11). The formula is as follows:

$$\frac{\text{effluent limit, lbs/day}}{\text{flow, MGD} * 8.34}$$

Table 4

Table 4 calculates the organic toxic technology effluent limitations based on BAT/NSPS established in the OCPSF guidelines, Subpart I or J as indicated. The column designations are very similar to those used for the summary table for Conventional pollutants, Non-Conventional pollutants, and Metals and Cyanide.

(*1) Parameter. The parameters are organized into three groups, Volatile Compounds, Acid Compounds, and Base/Neutral Compounds.

(*2) Average guideline value (BAT/NSPS) in terms of concentration in mg/L.

(*3) Maximum guideline value (BAT/NSPS) in terms of concentration in mg/L.

(*4) OCPSF process flow in MGD.

(*5) Average guideline limit in lbs/day- Calculated by multiplying the guideline concentration in column (*2) times the flow in column (*4) times the conversion factor of 8.34.

(*6) Maximum guideline limit in lbs/day- Calculated by multiplying the guideline concentration in column (*3) times the flow in column (*4) times the conversion factor of 8.34. Similar to column (*5).

(*7) Average Tech Old in lbs/day- This column is utilized when an anti-backsliding concern (CWA 402(o), 40 CFR 122.44.l, LAC 33.IX.2707.L) is present. This would be indicated by significantly higher limits (≈10% or greater) calculated under guidelines than those previously established in the previous permit on a BPJ basis (now achievable, if the permittee is meeting the limits) before guideline issuance. If the previously issued permit (as applicable) contains limits for the parameter of concern and an anti-backsliding concern is present, the limits from the previously issued permit are placed in this column in lbs/day.

(*8) Maximum Tech Old in lbs/day- Similar to (*7).

(*9) Antiback, 0=no scr., 1=OldvsGL, 2=Old+GL- Anti-Backsliding screening switch. The default is set under section (*1) in Table 1. If a screen is conducted, a "1" will appear in this column. The more stringent permit limits will appear in columns (*10) and (*11). If the screen indicates that the previously issued permit limit utilizing BPJ-Technology is more stringent and an increase in production has occurred, the technology based limits can be recalculated by running the spreadsheet a second time using guidelines for the increase only. This will be indicated by a "2" in this column. The recalculated guideline limitations in columns (*4) and (*5) are subsequently added to the values in columns (*7) and (*8) yielding technology-based effluent

limitations in columns (*10) and (*11). The values in this column can be changed on a row-by-row basis for site-specific screening situations.

(*10) Average technology based effluent limit in lbs/day- If no anti-backsliding screening is conducted then the value in this column will be equal to the value in column (*5). When anti-backsliding screening is used, see discussion for column (*9).

(*11) Maximum technology based effluent limit in lbs/day- If no anti-backsliding screening is conducted then the value in this column will be equal to the value in column (*6). When anti-backsliding screening is used, see discussion for column (*9).

(*12) Daily Average technology based effluent limit in mg/L- A concentration limit can be calculated using the specified concentration flow from section (*1) in Table 1 and the mass limitation calculated under column (*10). The formula is as follows:

$$\frac{\text{effluent limit, lbs/day}}{\text{flow, MGD} * 8.34}$$

(*13) Daily Maximum technology based effluent limit in mg/L- Similar to column (*11), a concentration limit can be calculated using the specified concentration flow from section (*1) in Table 1 and the mass limitation calculated under column (*11). The formula is as follows:

$$\frac{\text{effluent limit, lbs/day}}{\text{flow, MGD} * 8.34}$$

Appendix B

Developer: Bruce Fielding Time: 09:58 AM

Software: Lotus 4.0 LA0007901, AI38936

Revision date: 12/13/02

Water Quality Screen for Gaylord Container Corporation

Input variables:

Receiving Water Characteristics:

Receiving Water Name=	Pearl River
Critical flow (Qr) cfs=	1253
Harm. mean/avg tidal cfs=	3821
Drinking Water=1 HHNPCR=2	
Marine, 1=y, 0=n	
Rec. Water Hardness=	16.1
Rec. Water TSS=	16
Fisch/Specific=1,Stream=0	
Diffuser Ratio=	

Effluent Characteristics:

Permittee=	Gaylord Container Corporation
Permit Number=	LA0007901, AI38936
Facility flow (Qef),MGD=	22.4
Outfall Number =	001
Eff. data, 2=lbs/day	2
MQL, 2=lbs/day	2
Effluent Hardness=(*a)	152.3
Effluent TSS=	N/A
WQBL ind. 0=y, 1=n	
Acute/Chr. ratio 0=n, 1=y	0
Aquatic,acute only1=y,0=n	
Page Numbering/Labeling	
Appendix	Appendix B-1
Page Numbers 1=y, 0=n	1
Input Page # 1=y, 0=n	1

Fischer/Site Specific inputs:

Pipe=1,Canal=2,Specific=3	
Pipe width, feet	
ZID plume dist., feet	
MZ plume dist., feet	
HHnc plume dist., feet	
HHc plume dist., feet	

Fischer/site specific dilutions:

F/specific ZID Dilution =	---
F/specific MZ Dilution =	---
F/specific HHnc Dilution=	---
F/specific HHc Dilution=	---

Dilution:

ZID Fs =	0.033333
MZ Fs =	0.333333
Critical Qr (MGD)=	809.8139
Harm. Mean (MGD)=	2469.512
ZID Dilution =	0.453498
MZ Dilution =	0.076624
HHnc Dilution=	0.026916
HHc Dilution=	0.008989
ZID Upstream =	1.20508
MZ Upstream =	12.0508
MZhhnc Upstream=	36.15241
MZhhc Upstream=	110.2461
ZID Hardness=	77.86646
MZ Hardness=	26.53614
ZID TSS=	---
MZ TSS=	---

Multipliers:

WLAa --> LTAa	0.32
WLAc --> LTAc	0.53
LTA a,c-->WQBL avg	1.31
LTA a,c-->WQBL max	3.11
LTA h --> WQBL max	2.38
WQBL-limit/report	2.13
WLA Fraction	1
WQBL Fraction	1

Conversions:

ug/L-->lbs/day Qef	0.186816
ug/L-->lbs/day Qeo	0
ug/L-->lbs/day Qr	10.45002
lbs/day-->ug/L Qeo	5.352861
lbs/day-->ug/L Qef	5.352861
diss-->tot 1=y0=n	1
Cu diss->tot1=y0=n	1
cfs-->MGD	0.6463

Receiving Stream:

Default Hardness=	25
Default TSS=	10
99 Crit., 1=y, 0=n	1

Toxicity Dilution Series:

Biomonitoring dilution:	0.076624
Dilution Series Factor:	0.75

	Percent Effluent
Dilution No. 1	10.216%
Dilution No. 2	7.6624%
Dilution No. 3	5.7468%
Dilution No. 4	4.3101%
Dilution No. 5	3.2326%

Partition Coefficients; Dissolved-->Total

METALS	FW
Total Arsenic	2.014737
Total Cadmium	3.789487
Chromium III	5.079695
Chromium VI	1
Total Copper (*b)	28.27936
Total Lead	5.875083
Total Mercury	2.967076
Total Nickel	2.614238
Total Zinc (*b)	37.82453

Aquatic Life, Dissolved Metal Criteria, ug/L

METALS	ACUTE	CHRONIC
Arsenic	339.8	150
Cadmium	24.2504	0.386024
Chromium III	447.0758	60.05584
Chromium VI	15.712	10.582
Copper	14.55675	3.953743
Lead	49.13189	0.486334
Mercury	1.734	0.012
Nickel	1145.417	51.16793
Zinc	92.58637	33.9599

Site Specific Multiplier Values:

CV =	---
N =	---
WLAa --> LTAa	---
WLAc --> LTAc	---
LTA a,c-->WQBL avg	---
LTA a,c-->WQBL max	---
LTA h --> WQBL max	---

(*a) Total Hardness Concentration in mg/L as CaCO3, based on Table 1 in a letter dated 2/10/98 from Schurtz (C-K Associates) to Aydell (LDEQ).

(*b) Based on equation of lines in Figs 1 & 2 in a letter dated 2/10/98 from Schurtz(C-K Assoc.) to AydellLDEQ) for Cu & Zn.

(*1) Toxic Parameters	(*2) Instream Conc. ug/L	(*3) CuEffluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQLEffluent 95th % 1=No 95% 0=95 % lbs/day	(*6)	(*7) estimate Non-Tech lbs/day	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator "C"
NONCONVENTIONAL										
Total Phenols (4AAP)			75	0.93408	0		700	350	50	
3-Chlorophenol				1.86816						
4-Chlorophenol				1.86816			383	192		
2,3-Dichlorophenol				1.86816						
2,5-Dichlorophenol				1.86816						
2,6-Dichlorophenol				1.86816						
3,4-Dichlorophenol				1.86816						
2,4-Dichlorophenocy-acetic acid (2,4-D)				---						
2-(2,4,5-Trichlorophen-oxy) propionic acid (2,4,5-TP, Silvex)				---						
METALS AND CYANIDE										
Total Arsenic				1.86816			684.6077	302.2106		
Total Cadmium				0.186816			91.8966	1.462834		
Chromium III				1.86816			2271.008	305.0653		
Chromium VI				1.86816			15.712	10.582		
Total Copper	1.83	4.33	13.6	1.86816	1		411.6555	12.40873		
Total Lead				0.93408			288.654	2.85725		
Total Mercury				0.037363			5.14491	0.035605		
Total Nickel				7.47264			2994.393	133.7652		
Total Zinc	5.28	23.6	77.4	3.73632	1		3502.036	131.4841		
Total Cyanide				3.73632			45.9	5.2	12844	
DIOXIN										
2,3,7,8 TCDD; dioxin				1.9E-006					7.2E-007	C
VOLATILE COMPOUNDS										
Benzene		0.200577	0.737256	1.86816	1		2249	1125	12.5	C
Bromoform				1.86816			2930	1465	34.7	C
Bromodichloromethane				1.86816					3.3	C
Carbon Tetrachloride		0.097578	0.205998	1.86816	1		2730	1365	1.2	C
Chloroform		0.113841	0.249366	1.86816	1		2890	1445	70	C
Dibromochloromethane				1.86816					5.08	C
1,2-Dichloroethane		0.368628	1.143831	1.86816	1		11800	5900	6.8	C
1,1-Dichloroethylene		0.086736	0.135525	1.86816	1		1160	580	0.58	C
1,3-Dichloropropylene		0.157209	0.238524	1.86816	1		606	303	162.79	
Ethylbenzene		0.173472	0.585468	1.86816	1		3200	1600	8100	
Methyl Chloride		0.466206	1.02999	9.3408	1		55000	27500		
Methylene Chloride		0.21684	0.482469	3.73632	1		19300	9650	87	C
1,1,2,2-Tetrachloro-ethane				1.86816			932	466	1.8	C

(*1) Toxic Parameters	(*12) WLAa Acute ug/L	(*13) WLAc Chronic ug/L	(*14) WLAh HHNDW ug/L	(*15) LTAa Acute ug/L	(*16) LTAc Chronic ug/L	(*17) LTAh HHNDW ug/L	(*18) Limiting A,C,HH ug/L	(*19) WQBL Avg 001 ug/L	(*20) WQBL Max 001 ug/L	(*21) WQBL Avg 001 lbs/day	(*22) WQBL Max 001 lbs/day	(*23) Need WQBL?
NONCONVENTIONAL												
Total Phenols (4AAP)	1543.556	4567.781	1857.62	493.938	2420.924	1857.62	493.938	647.0587	1536.147	120.8809	286.9769	no
3-Chlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
4-Chlorophenol	844.5457	2505.754	---	270.2546	1328.05	---	270.2546	354.0336	840.4919	66.13913	157.0173	no
2,3-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,5-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,6-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
3,4-Dichlorophenol	---	---	---	---	---	---	---	---	---	---	---	no
2,4-Dichlorophenocy-acetic acid (2,4-D)	---	---	---	---	---	---	---	---	---	---	---	no
2-(2,4,5-Trichlorophen-oxy) propionic acid (2,4,5-TP, Silvex)	---	---	---	---	---	---	---	---	---	---	---	no
METALS AND CYANIDE												
Total Arsenic	1509.615	3944.091	---	483.0768	2090.368	---	483.0768	632.8306	1502.369	118.2229	280.6665	no
Total Cadmium	202.6394	19.09115	---	64.8446	10.11831	---	10.11831	13.25499	31.46795	2.476244	5.878716	no
Chromium III	5007.756	3981.347	---	1602.482	2110.114	---	1602.482	2099.251	4983.719	392.1737	931.0384	no
Chromium VI	34.64622	138.1036	---	11.08679	73.1949	---	11.08679	14.5237	34.47992	2.713259	6.4414	no
Total Copper	900.8122	92.73116	---	288.2599	49.14752	---	49.14752	64.38325	152.8488	12.02782	28.5546	no
Total Lead	636.5051	37.28941	---	203.6816	19.76339	---	19.76339	25.89004	61.46413	4.836673	11.48248	no
Total Mercury	11.34494	0.464673	---	3.630381	0.246277	---	0.246277	0.322622	0.76592	0.060271	0.143086	no
Total Nickel	6602.877	1745.743	---	2112.921	925.2436	---	925.2436	1212.069	2877.508	226.4339	537.5645	no
Total Zinc	7697.635	1469.621	---	2463.243	778.8991	---	778.8991	1020.358	2422.376	190.6192	452.5386	no
Total Cyanide	101.2132	67.86417	477185.5	32.38822	35.96801	477185.5	32.38822	42.42857	100.7274	7.926335	18.81748	no
DIOXIN												
2,3,7,8 TCDD; dioxin	---	---	0.00008	---	---	0.00008	0.00008	0.00008	0.000191	0.000015	0.000036	no
VOLATILE COMPOUNDS												
Benzene	4959.225	14682.15	1390.576	1586.952	7781.541	1390.576	1390.576	1390.576	3309.571	259.7819	618.2808	no
Bromoform	6460.885	19119.43	3860.239	2067.483	10133.3	3860.239	2067.483	2708.403	6429.873	505.973	1201.203	no
Bromodichloromethane	---	---	367.1121	---	---	367.1121	367.1121	367.1121	873.7268	68.58241	163.2261	no
Carbon Tetrachloride	6019.869	17814.34	133.4953	1926.358	9441.603	133.4953	133.4953	133.4953	317.7188	24.93906	59.35496	no
Chloroform	6372.682	18858.41	7787.226	2039.258	9994.957	7787.226	2039.258	2671.428	6342.093	499.0655	1184.804	no
Dibromochloromethane	---	---	565.1301	---	---	565.1301	565.1301	565.1301	1345.01	105.5753	251.2693	no
1,2-Dichloroethane	26019.95	76999.73	756.4734	8326.383	40809.86	756.4734	756.4734	756.4734	1800.407	141.3213	336.3448	no
1,1-Dichloroethylene	2557.893	7569.465	64.52273	818.5258	4011.817	64.52273	64.52273	64.52273	153.5641	12.05388	28.68823	no
1,3-Dichloropropylene	1336.279	3954.393	6048.04	427.6092	2095.828	6048.04	427.6092	560.168	1329.864	104.6483	248.44	no
Ethylbenzene	7056.257	20881.28	300934.5	2258.002	11067.08	300934.5	2258.002	2957.983	7022.387	552.5985	1311.894	no
Methyl Chloride	121279.4	358897.1	---	38809.41	190215.4	---	38809.41	50840.33	120697.3	9497.787	22548.18	no
Methylene Chloride	42558.05	125940.2	9678.409	13618.58	66748.33	9678.409	9678.409	9678.409	23034.61	1808.082	4303.235	no
1,1,2,2-Tetrachloro-ethane	2055.135	6081.674	200.243	657.6431	3223.287	200.243	200.243	200.243	476.5782	37.40859	89.03244	no

(*1) Toxic Parameters	(*2) Instream Conc. ug/L	(*3) CuEffluent /Tech (Avg) lbs/day	(*4) Effluent /Tech (Max) lbs/day	(*5) MQLEffluent 1=No 95% 0=95 % lbs/day	(*6) 95th % estimate Non-Tech lbs/day	(*7)	(*8) Numerical Criteria Acute FW ug/L	(*9) Chronic FW ug/L	(*10) HHNDW ug/L	(*11) HH Carcinogen Indicator *C*
VOLATILE COMPOUNDS (cont'd)										
Tetrachloroethylene		0.119262	0.303576	1.86816	1		1290	645	2.5	C
Toluene		0.140946	0.43368	1.86816	1		1270	635	46200	
1,1,1-Trichloroethane		0.113841	0.292734	1.86816	1		5280	2640		
1,1,2-Trichloroethane		0.113841	0.292734	1.86816	1		1800	900	6.9	C
Trichloroethylene		0.113841	0.292734	1.86816	1		3900	1950	21	C
Vinyl Chloride		0.563784	1.452828	1.86816	1				35.8	C
ACID COMPOUNDS										
2-Chlorophenol		0.168051	0.531258	1.86816	1		258	129	126.4	
2,4-Dichlorophenol		0.211419	0.607152	1.86816	1		202	101	232.6	
BASE NEUTRAL COMPOUNDS										
Benzidine				9.3408			250	125	0.00017	C
Hexachlorobenzene		0.081315	0.151788	1.86816	1				0.00025	C
Hexachlorabutadiene		0.10842	0.265629	1.86816	1		5.1	1.02	0.11	C
PESTICIDES										
Aldrin				0.009341			3		0.0004	C
Hexachlorocyclohexane (gamma BHC, Lindane)				0.009341			5.3	0.21	0.2	C
Chlordane				0.037363			2.4	0.0043	0.00019	C
4,4'-DDT				0.018682			1.1	0.001	0.00019	C
4,4'-DDE				0.018682			52.5	10.5	0.00019	C
4,4'-DDD				0.018682			0.03	0.006	0.00027	C
Dieldrin				0.018682			0.2374	0.0557	0.00005	C
Endosulfan				0.018682			0.22	0.056	0.64	
Endrin				0.018682			0.0864	0.0375	0.26	
Heptachlor				0.009341			0.52	0.0038	0.00007	C
Toxaphene				0.93408			0.73	0.0002	0.00024	C
Other Parameters:										
Fecal Col.(col/100ml)										
Chlorine							19	11		
Ammonia								4000		
Chlorides										
Sulfates								15000	15000	
TDS										

(*1) Toxic Parameters	(*12) WLAa Acute	(*13) WLAc Chronic	(*14) WLAh HHNDW	(*15) LTAa Acute	(*16) LTAc Chronic	(*17) LTAh HHNDW	(*18) Limiting A,C,HH	(*19) WQBL Avg 001	(*20) WQBL Max 001	(*21) WQBL Avg 001	(*22) WQBL Max 001	(*23) Need WQBL?
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	lbs/day	lbs/day	
Tetrachloroethylene	2844.553	8417.767	278.1152	910.2571	4461.417	278.1152	278.1152	278.1152	661.9142	51.95637	123.6562	no
Toluene	2800.452	8287.259	1716441	896.1446	4392.247	1716441	896.1446	1173.949	2787.01	219.3125	520.658	no
1,1,1-Trichloroethane	11642.82	34454.12	---	3725.704	18260.68	---	3725.704	4880.672	11586.94	911.7875	2164.625	no
1,1,2-Trichloroethane	3969.144	11745.72	767.598	1270.126	6225.233	767.598	767.598	767.598	1826.883	143.3996	341.291	no
Trichloroethylene	8599.813	25449.06	2336.168	2751.94	13488	2336.168	2336.168	2336.168	5560.079	436.4335	1038.712	no
Vinyl Chloride	---	---	3982.61	---	---	3982.61	3982.61	3982.61	9478.611	744.0152	1770.756	no
ACID COMPOUNDS												
2-Chlorophenol	568.9107	1683.553	4696.064	182.0514	892.2833	4696.064	182.0514	238.4874	566.1799	44.55326	105.7715	no
2,4-Dichlorophenol	445.4262	1318.131	8641.65	142.5364	698.6094	8641.65	142.5364	186.7227	443.2882	34.88278	82.81332	no
BASE NEUTRAL COMPOUNDS												
Benzidine	551.2701	1631.35	0.018912	176.4064	864.6156	0.018912	0.018912	0.018912	0.04501	0.003533	0.008409	no
Hexachlorobenzene	---	---	0.027812	---	---	0.027812	0.027812	0.027812	0.066191	0.005196	0.012366	yes
Hexachlorabutadiene	11.24591	13.31182	12.23707	3.598691	7.055264	12.23707	3.598691	4.714285	11.19193	0.880704	2.090831	no
PESTICIDES												
Aldrin	6.615241	---	0.044498	2.116877	---	0.044498	0.044498	0.044498	0.105906	0.008313	0.019785	no
Hexachlorocyclohexane (gamma BHC, Lindane)	11.68693	2.740668	22.24922	3.739816	1.452554	22.24922	1.452554	1.902846	4.517444	0.355482	0.843931	no
Chlordane	5.292193	0.056118	0.021137	1.693502	0.029743	0.021137	0.021137	0.021137	0.050305	0.003949	0.009398	no
4,4'-DDT	2.425588	0.013051	0.021137	0.776188	0.006917	0.021137	0.006917	0.009061	0.021512	0.001693	0.004019	no
4,4'-DDE	115.7667	137.0334	0.021137	37.04535	72.62771	0.021137	0.021137	0.021137	0.050305	0.003949	0.009398	no
4,4'-DDD	0.066152	0.078305	0.030036	0.021169	0.041502	0.030036	0.021169	0.027731	0.065835	0.005181	0.012299	no
Dieldrin	0.523486	0.72693	0.005562	0.167516	0.385273	0.005562	0.005562	0.005562	0.013238	0.001039	0.002473	no
Endosulfan	0.485118	0.730845	23.77754	0.155238	0.387348	23.77754	0.155238	0.203361	0.482789	0.037991	0.090193	no
Endrin	0.190519	0.489405	9.659626	0.060966	0.259385	9.659626	0.060966	0.079866	0.189604	0.01492	0.035421	no
Heptachlor	1.146642	0.049593	0.007787	0.366925	0.026284	0.007787	0.007787	0.007787	0.018534	0.001455	0.003462	no
Toxaphene	1.609709	0.00261	0.026699	0.515107	0.001383	0.026699	0.001383	0.001812	0.004302	0.000339	0.000804	no
Other Parameters:												
Fecal Col.(col/100ml)	---	---	---	---	---	---	---	---	---	---	---	no
Chlorine	41.89652	143.5588	---	13.40689	76.08618	---	13.40689	17.56302	41.69542	3.281054	7.789372	no
Ammonia	---	52203.21	---	---	27667.7	---	27667.7	36244.69	86046.55	6771.088	16074.87	no
Chlorides	---	---	---	---	---	---	---	---	---	---	---	no
Sulfates	---	1668691	1668691	---	884406.4	1668691	884406.4	1158572	2750504	216439.9	513838.1	no
TDS	---	---	---	---	---	---	---	---	---	---	---	no
	---	---	---	---	---	---	---	---	---	---	---	no
	---	---	---	---	---	---	---	---	---	---	---	no

APPENDIX B-2 LA0007901, AI No. 38936

Documentation and Explanation of Water Quality Screen
and Associated Lotus Spreadsheet

Each reference column is marked by a set of parentheses enclosing a number and asterisk, for example (*1) or (*19). These columns represent inputs, existing data sets, calculation points, and results for determining Water Quality Based Limits for an effluent of concern. The following represents a summary of information used in calculating the water quality screen:

Receiving Water Characteristics:

Receiving Water: Pearl River
Critical Flow, Qrc (cfs): 1,253
Harmonic Mean Flow, Qrh (cfs): 3,821
Segment No.: 090101
Receiving Stream Hardness (mg/L): 16.1 Site-specific hardness at the edge of the Zone of Initial Dilution and Mixing Zone was considered utilizing both effluent hardness (from data supplied by permittee by letter from Schurtz, C-K Associates to Aydell, LDEQ on 2/10/98) and receiving water hardness (from Engineering Memo) for all hardness dependent metals.
Receiving Stream TSS (mg/L): 16
MZ Stream Factor, Fs: 0.333
Plume distance, Pf: N/A

Effluent Characteristics:

Company: Gaylord Container Corporation d/b/a Temple Inland Paperboard and Packaging, Inc.
Facility flow, Qe (MGD): 22.4, Max 30-Day
Effluent Hardness: 152.3 Site-specific hardness at the edge of the Zone of Initial Dilution and Mixing Zone was considered utilizing both effluent hardness (from data supplied by permittee by letter from Schurtz, C-K Associates to Aydell, LDEQ on 2/10/98) and receiving water hardness (from Engineering Memo) for all hardness dependent metals.
Effluent TSS: N/A
Pipe/canal width, Pw: N/A
Permit Number: LA0007901

Variable Definition:
Qrc, critical flow of receiving stream, cfs
Qrh, harmonic mean flow of the receiving stream, cfs
Pf = Allowable plume distance in feet, specified in LAC 33.IX.1115.D
Pw = Pipe width or canal width in feet
Qe, total facility flow , MGD
Fs, stream factor from LAC.IX.33.11 (1 for harmonic mean flow)
Cu, ambient concentration, ug/L
Cr, numerical criteria from LAC.IX.1113, Table 1
WLA, wasteload allocation
LTA, long term average calculations
WQBL, effluent water quality based limit
ZID, Zone of Initial Dilution in % effluent
MZ, Mixing Zone in % effluent

Formulas used in aquatic life water quality screen (dilution type WLA):

Streams:

$$\text{Dilution Factor} = \frac{Qe}{(Qrc \times 0.6463 \times Fs + Qe)}$$

$$\text{WLA a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Fs \times Qrc \times 0.6463 \times Cu)}{Qe}$$

Static water bodies (in the absence of a site specific dilution):

Discharge from a pipe:

$$\text{Critical Dilution} = \frac{(2.8)\ Pw\ \pi^{1/2}}{Pf}$$

$$WLA = \frac{(Cr-Cu)\ Pf}{(2.8)\ Pw\ \pi^{1/2}}$$

Discharge from a canal:

$$\text{Critical Dilution} = \frac{(2.38)(Pw^{1/2})}{(Pf)^{1/2}}$$

$$WLA = \frac{(Cr-Cu)\ Pf^{1/2}}{2.38\ Pw^{1/2}}$$

Formulas used in human health water quality screen, human health non-carcinogens (dilution type WLA):

Streams:

$$\text{Dilution Factor} = \frac{Qe}{(Qrc \times 0.6463 + Qe)}$$

$$\text{WLA a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Qrc \times 0.6463 \times Cu)}{Qe}$$

Formulas used in human health water quality screen, human health carcinogens (dilution type WLA):

$$\text{Dilution Factor} = \frac{Qe}{(Qrh \times 0.6463 + Qe)}$$

$$\text{WLA a,c,h} = \frac{Cr}{\text{Dilution Factor}} - \frac{(Qrh \times 0.6463 \times Cu)}{Qe}$$

Static water bodies in the absence of a site specific dilution (human health carcinogens and human health non-carcinogens):

Discharge from a pipe:

$$\text{Critical Dilution} = \frac{(2.8)\ Pw\ \pi^{1/2}}{Pf}$$

Discharge from a canal:

$$\text{Critical Dilution} = \frac{(2.38)(Pw^{1/2})}{(Pf)^{1/2}}$$

$$WLA = \frac{(Cr-Cu)\ Pf^{*}}{(2.8)\ Pw\ n^{1/2}} \qquad WLA = \frac{(Cr-Cu)\ Pf^{1/2*}}{2.38\ Pw^{1/2}}$$

* Pf is set equal to the mixing zone distance specified in LAC 33:IX.1115 for the static water body type, i.e., lake, estuary, Gulf of Mexico, etc.

If a site specific dilution is used, WLA are calculated by subtracting Cu from Cr and dividing by the site specific dilution for human health and aquatic life criteria.

$$WLA = \frac{(Cr-Cu)}{\text{site specific dilution}}$$

Longterm Average Calculations:
LTAa = WLAa X 0.32
LTAc = WLAc X 0.53
LTAh = WLAh

WQBL Calculations:
Select most limiting LTA to calculate daily max and monthly avg WQBL

If aquatic life LTA is more limiting:
Daily Maximum = Min(LTAa, LTAc) X 3.11
Monthly Average = Min(LTAc, LTAc) X 1.31

If human health LTA is more limiting:
Daily Maximum = LTAh X 2.38
Monthly Average = LTAh

Mass Balance Formulas:

mass (lbs/day): (ug/L) X 1/1000 X (flow, MGD) X 8.34 = lbs/day

$$\text{concentration(ug/L)}: \frac{\text{lbs/day}}{\text{(flow, MGD) X 8.34 X 1/1000}} = \text{ug/L}$$

The following is an explanation of the references in the spreadsheet.

(*1) Parameter being screened.
(*2) Instream concentration for the parameter being screened in ug/L. In the absence of accurate supporting data, the instream concentration is assumed to be zero (0).
(*3) Monthly average effluent or technolgy value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
(*4) Daily maximum technology value in concentration units of ug/L or mass units of lbs/day. Units determined on a case-by-case basis as appropriate to the particular situation.
(*5) Minimum analytical Quantification Levels (MQL's). Established in a letter dated January 27, 1994 from Wren Stenger of EPA Region 6 to

Kilren Vidrine of LDEQ and from the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". The applicant must test for the parameter at a level at least as sensitive as the specified MQL. If this is not done, the MQL becomes the application value for screening purposes if the pollutant is suspected to be present on-site and/or in the waste stream. Units are in ug/l or lbs/day depending on the units of the effluent data.

(*6) States whether effluent data is based on 95th percentile estimation. A "1" indicates that a 95th percentile approximation is being used, a "0" indicates that no 95th percentile approximation is being used.

(*7) 95th percentile approximation multiplier (2.13). The constant, 2.13, was established in memorandum of understanding dated October 8, 1991 from Jack Ferguson of Region 6 to Jesse Chang of LDEQ and included in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". This value is screened against effluent Water Quality Based Limits established in columns (*18) - (*21). Units are in ug/l or lbs/day depending on the units of the measured effluent data.

(*8) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, acute criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used, however a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used, however, a flow weighted TSS may be determined in site-specific situations.

Hardness Dependent Criteria:

Metal	Formula
Cadmium	$e^{(1.1280[\ln(\text{hardness})] - 1.6774)}$
Chromium III	$e^{(0.8190[\ln(\text{hardness})] + 3.6880)}$
Copper	$e^{(0.9422[\ln(\text{hardness})] - 1.3884)}$
Lead	$e^{(1.2730[\ln(\text{hardness})] - 1.4600)}$
Nickel	$e^{(0.8460[\ln(\text{hardness})] + 3.3612)}$
Zinc	$e^{(0.8473[\ln(\text{hardness})] + 0.8604)}$

Dissolved to Total Metal Multipliers for Freshwater Streams (TSS dependent):

Metal	Multiplier
Arsenic	$1 + 0.48 \times TSS^{-0.73} \times TSS$
Cadmium	$1 + 4.00 \times TSS^{-1.13} \times TSS$
Chromium III	$1 + 3.36 \times TSS^{-0.93} \times TSS$
Copper	$1 + 1.04 \times TSS^{-0.74} \times TSS$
Lead	$1 + 2.80 \times TSS^{-0.80} \times TSS$
Mercury	$1 + 2.90 \times TSS^{-1.14} \times TSS$
Nickel	$1 + 0.49 \times TSS^{-0.57} \times TSS$
Zinc	$1 + 1.25 \times TSS^{-0.70} \times TSS$

Dissolved to Total Metal Multipliers for Marine Environments (TSS dependent):

Metal	Multiplier
Copper	$1 + (10^{4.86} \times TSS^{-0.72} \times TSS) \times 10^{-6}$
Lead	$1 + (10^{6.06} \times TSS^{-0.85} \times TSS) \times 10^{-6}$
Zinc	$1 + (10^{5.36} \times TSS^{-0.52} \times TSS) \times 10^{-6}$

If a metal does not have multiplier listed above, then the dissolved to total metal multiplier shall be 1.

(*9) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, freshwater (FW) or marine water (MW) (whichever is applicable) aquatic life protection, chronic criteria. Units are specified. Some metals are hardness dependent. The hardness of the receiving stream shall generally be used, however a flow weighted hardness may be determined in site-specific situations. Dissolved metals are converted to Total metals using partition coefficients in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Similar to hardness, the TSS of the receiving stream shall generally be used, however, a flow weighted TSS may be determined in site-specific situations.

Hardness dependent criteria:

Metal	Formula
Cadmium	$e^{(0.7852[\ln(\text{hardness})] - 3.4900)}$
Chromium III	$e^{(0.8473[\ln(\text{hardness})] + 0.7614)}$

Copper	$e^{(0.8545[\ln(\text{hardness})] - 1.3860)}$
Lead	$e^{(1.2730[\ln(\text{hardness})] - 4.7050)}$
Nickel	$e^{(0.8460[\ln(\text{hardness})] + 1.1645)}$
Zinc	$e^{(0.8473[\ln(\text{hardness})] + 0.7614)}$

Dissolved to total metal multiplier formulas are the same as (*8), acute numerical criteria for aquatic life protection.

(*10) LAC 33.IX.1113.C.6, Table 1, Numerical Criteria for Specific Toxic Substances, human health protection, drinking water supply (HHDW), non-drinking water supply criteria (HHNDW), or human health non-primarry contact recreation (HHNPCR) (whichever is applicable). A DEQ and EPA approved Use Attainability Analysis is required before HHNPCR is used, e.g., Monte Sano Bayou. Units are specified.

(*11) C if screened and carcinogenic. If a parameter is being screened and is carcinogenic a "C" will appear in this column.

(*12) Wasteload Allocation for acute aquatic criteria (WLAa). Dilution type WLAa is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the acute aquatic numerical criteria for that parameter. Units are in ug/L.
Dilution WLAa formulas for streams:

$$WLAa = (Cr/\text{Dilution Factor}) - \frac{(Fs \times Qrc \times 0.6463 \times Cu)}{Qe}$$

Dilution WLAa formulas for static water bodies:
WLAa = (Cr-Cu)/Dilution Factor)
Cr represents aquatic acute numerical criteria from column (*8).
If Cu data is unavailable or inadequate, assume Cu=0.

If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

(*13) Wasteload Allocation for chronic aquatic criteria (WLAc). Dilution type WLAc is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the chronic aquatic numerical criteria for that parameter. Units are in ug/L.
Dilution WLAc formula:

$$WLAc = (Cr/\text{Dilution Factor}) - \frac{(Fs \times Qrc \times 0.6463 \times Cu)}{Qe}$$

Dilution WLAc formulas for static water bodies:
WLAc = (Cr-Cu)/Dilution Factor)
Cr represents aquatic chronic numerical criteria from column (*9).
If Cu data is unavailable or inadequate, assume Cu=0.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

(*14) Wasteload Allocation for human health criteria (WLAh). Dilution type WLAh is calculated in accordance with the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards". Negative values indicate that the receiving water is not meeting the human health numerical criteria for that parameter. Units are in ug/L. Dilution WLAh formula:

$$WLAh = (Cr/Dilution\ Factor) - \frac{(Fs \times Qrc,Qrh \times 0.6463 \times Cu)}{Qe}$$

Dilution WLAh formulas for static water bodies:
WLAh = (Cr-Cu)/Dilution Factor)
Cr represents human health numerical criteria from column (*10).
If Cu data is unavailable or inadequate, assume Cu=0.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

(*15) Long Term Average for aquatic numerical criteria (LTAa). WLAa numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.32. WLAa X 0.32 = LTAa.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

(*16) Long Term Average for chronic numerical criteria (LTAc). WLAc numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 0.53. WLAc X 0.53 = LTAc.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

(*17) Long Term Average for human health numerical criteria (LTAh). WLAh numbers are multiplied by a multiplier specified in the "Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards" which is 1. WLAc X 1 = LTAh.
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then a blank shall appear in this column.

(*18) Limiting Acute, Chronic or Human Health LTA's. The most limiting LTA is placed in this column. Units are consistent with the WLA calculation. If standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then the type of limit, Aquatic or Human Health (HH), is indicated.

(*19) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 1.31 to determine the average WQBL ($LTA_{limiting\ aquatic} \times 1.31 = WQBL_{monthly\ average}$). If human health criteria was the most limiting criteria then LTAh = $WQBL_{monthly\ average}$. If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then either the human health criteria or the chronic aquatic life criteria shall appear in this column depending on which is more limiting.

(*20) End of pipe Water Quality Based Limit (WQBL) daily maxium in terms of concentration, ug/L. If aquatic life criteria was the most limiting LTA then the limiting LTA is multiplied by 3.11 to determine the daily maximum WQBL ($LTA_{limiting\ aquatic} \times 3.11 = WQBL_{daily\ max}$). If human health criteria was the most limiting criteria then LTAh is multiplied by 2.38 to determine the daily maximum WQBL ($LTA_{limiting\ aquatic} \times 2.38 = WQBL_{daily\ max}$).
If water quality standards are being applied at end-of-pipe, such as in the case of certain TMDL's, then either the human health criteria or the

acute aquatic life criteria shall appear in this column depending on which is more limiting.

(*21) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. The mass limit is determined by using the mass balance equations above. Monthly average WQBL, ug/l/1000 X facility flow, MGD X 8.34 = monthly average WQBL, lbs/day.

(*22) End of pipe Water Quality Based Limit (WQBL) monthly average in terms of mass, lbs/day. Mass limit is determined by using the mass balance equations above. Daily maximum WQBL, ug/l/1000 X facility flow, MGD X 8.34 = daily maximum WQBL, lbs/day.

(*23) Indicates whether the screened effluent value(s) need water quality based limits for the parameter of concern. A "yes" indicates that a water quality based limit is needed in the permit; a "no" indicates the reverse.

Appendix C

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY You may report some or all of this information on separate sheets (use the same format) instead of completing these pages SEE INSTRUCTIONS.

I.D. NUMBER (copy from Item 1 of Form 1)
LA0007901

Form Approved.
OMB No 2040-0086
Approval expires 7-31-88

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-C)

OUTFALL NO.
001

PART A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS (specify if blank)		4. INTAKE (optional)		
	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	192.4	42,205	72.2	15,235	44.6	8,610	410	mg/L	lbs/day	-	-	-
b. Chemical Oxygen Demand (COD)	168	26,443	-	-	-	-	1	mg/L	lbs/day	-	-	-
c. Total Organic Carbon (TOC)	42.9	7,263	-	-	-	-	1	mg/L	lbs/day	-	-	-
d. Total Suspended Solids (TSS)	322.2	61,534	122.7	25,411	66.5	12,885	534	mg/L	lbs/day	-	-	-
e. Ammonia (as N)	1.4	237	-	-	-	-	1	mg/L	lbs/day	-	-	-
f. Flow	VALUE 40.4		VALUE 26.0		VALUE 23.1		911	MGD	-	VALUE -		-
g. Temperature (winter)	VALUE 29.0		VALUE 26.1		VALUE 22.3		339	°C		VALUE -		-
h. Temperature (summer)	VALUE 34.0		VALUE 32.2		VALUE 28.8		295	°C		VALUE -		-
i. pH	MINIMUM 7.6	MAXIMUM 9.0	MINIMUM -	MAXIMUM -			40	STANDARD UNITS				

PART B - Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) Concentration	(2) Mass	
a. Bromide (24959-67-9)		X	<0.2	-	-	-	-	-	1	mg/L	-	-	-	-
b. Chlorine, Total Residual		X	<0.10	-	-	-	-	-	1	mg/L	-	-	-	-
c. Color	X		750	-	-	-	-	-	1	Pt-Co Color Units	-	-	-	-
d. Fecal Coliform	X		50	-	-	-	-	-	1	col/100 ml	-	-	-	-
e. Fluoride (16984-48-8)	X		0.8	135	-	-	-	-	1	mg/L	lbs/day	-	-	-
f. Nitrate Nitrite (as N)		X	<0.2	-	-	-	-	-	1	mg/L	-	-	-	-

ITEM V-B CONTINUED FROM FRONT

1. POLLUTANT AND CAS NO. (if available)	2. MARK "X"		3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
g. Nitrogen, Total Organic (as N)	X		5.9	999	-	-	-	-	1	mg/L	lbs/day	-	-	-
h. Oil and Grease	X		18.5	3,183	-	-	5.3	977	14	mg/L	lbs/day	-	-	-
i. Phosphorus (as P), Total (7723-14-0)	X		1.20	203	-	-	-	-	1	mg/L	lbs/day	-	-	-
j. Radioactivity														
(1) Alpha, Total	X		6.92	-	-	-	-	-	1	pCi/L	-	-	-	-
(2) Beta Total	X		58.19	-	-	-	-	-	1	pCi/L	-	-	-	-
(3) Radium Total	X		4.05	-	-	-	-	-	1	pCi/L	-	-	-	-
(4) Radium 226, Total		X	<1.76	-	-	-	-	-	1	pCi/L	-	-	-	-
k. Sulfate (as SO_4) (14808-79-8)	X		523	92,907	-	-	-	-	1	mg/L	lbs/day	-	-	-
l. Sulfide (as S)		X	<0.1	-	-	-	-	-	1	mg/L	-	-	-	-
m. Sulfite (as SO_3) (14265-45-3)		X	<1.0	-	-	-	-	-	1	mg/L	-	-	-	-
n. Surfactants	X		0.12	21	-	-	-	-	1	mg/L	lbs/day	-	-	-
o. Aluminum, Total (7429-90-5)	X		2.266	403	-	-	-	-	1	mg/L	lbs/day	-	-	-
p. Barium Total (7440-39-3)	X		0.200	36	-	-	-	-	1	mg/L	lbs/day	-	-	-
q. Boron, Total (7440-42-8)	X		0.579	103	-	-	-	-	1	mg/L	lbs/day	-	-	-
r. Cobalt, Total (7440-48-4)		X	<0.005	-	-	-	-	-	1	mg/L	-	-	-	-
s. Iron, Total (7439-89-6)	X		0.909	162	-	-	-	-	1	mg/L	lbs/day	-	-	-
t. Magnesium, Total (7439-95-4)	X		5.426	984	-	-	-	-	1	mg/L	lbs/day	-	-	-
u. Molybdenum, Total (7439-98-7)		X	<0.006	-	-	-	-	-	1	mg/L	-	-	-	-
v. Manganese, Total (7439-96-5)	X		1.459	259	-	-	-	-	1	mg/L	lbs/day	-	-	-
w. Tin, Total (7440-31-5)		X	<0.050	-	-	-	-	-	1	mg	-	-	-	-
x. Titanium, Total (7440-32-6)	X		0.012	2.1	-	-	-	-	1	mg/L	lbs/day	-	-	-

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CONTINUED FROM PAGE 3 OF FORM 2-C

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PART C - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for the pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT						4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
METALS, CYANIDE, AND TOTAL PHENOLS															
1M. Antimony, Total (7440-36-0)	X			<0.010	-	-	-	-	-	1	mg/L	-	-	-	-
2M. Arsenic, Total (7440-38-2)	X			<0.010	-	-	-	-	-	1	mg/L	-	-	-	-
3M. Beryllium, Total (7440-41-7)	X			<0.002	-	-	-	-	-	1	mg/L	-	-	-	-
4M. Cadmium, Total (7440-43-9)	X			0.001	0.18	-	-	-	-	1	mg/L	lbs/day	-	-	-
5M. Chromium, Total (7440-47-3)	X			<0.010	-	-	-	-	-	1	mg/L	-	-	-	-
6M. Copper, Total (7440-50-8)	X			0.062	13.6	-	-	0.020	4.33	33	mg/L	lbs/day	-	-	-
7M. Lead, Total (7439-92-1)	X			<0.005	-	-	-	-	-	1	mg/L	-	-	-	-
8M. Mercury, Total (7439-97-6)	X			<0.0002	-	-	-	-	-	1	mg/L	-	-	-	-
9M. Nickel, Total (7440-02-0)	X			0.009	1.6	-	-	-	-	1	mg/L	lbs/day	-	-	-
10M. Selenium, Total (7782-49-2)	X			<0.003	-	-	-	-	-	1	mg/L	-	-	-	-
11M. Silver, Total (7440-22-4)	X			<0.002	-	-	-	-	-	1	mg/L	-	-	-	-
12M. Thallium, Total (7440-28-0)	X			<0.010	-	-	-	-	-	1	mg/L	-	-	-	-
13M. Zinc, Total (7440-66-6)	X			0.354	77.4	-	-	0.12	23.6	33	mg/L	lbs/day	-	-	-
14M. Cyanide, Total (57-12-5)	X			<0.010	-	-	-	-	-	1	mg/L	-	-	-	-
15M. Phenols, Total	X			0.075	14	-	-	-	-	1	mg/L	lbs/day	-	-	-
DIOXIN															
2,3,7,8-Tetra-Chlorodibenzo-P Dioxin (1784-01-6)			X												

CONTINUE FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK "X" a. TEST-ING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION – VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)	X			<50	-	-	-	-	-	1	µg/L	-	-	-	-
2V. Acrylonitrile (107-13-1)	X			<50	-	-	-	-	-	1	µg/L	-	-	-	-
3V. Benzene (71-43-2)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
4V. Bis (Chloromethyl) Ether (542-88-1)			X	-	-	-	-	-	-	-	-	-	-	-	-
5V. Bromoform (75-25-2)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
6V. Carbon Tetrachloride (56-23-5)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
7V. Chlorobenzene (108-90-7)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
8V. Chlorodibromomethane (124-48-1)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
9V. Chloroethane (75-00-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
10V. 2-Chloroethylvinyl Ether (110-75-8)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
11V. Chloroform (67-66-3)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
12V. Dichlorobromomethane (75-27-4)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
13V. Dichlorodifluoromethane (75-71-8)			X	-	-	-	-	-	-	-	-	-	-	-	-
14V. 1,1-Dichloroethane (75-34-3)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
15V. 1,2-Dichloroethane (107-06-2)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
16V. 1,1-Dichloroethylene (75-35-4)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
17V. 1,2-Dichloropropane (78-87-5)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
18V. 1,3-Dichloropropylene (542-75-6)			X	-	-	-	-	-	-	-	-	-	-	-	-
19V. Ethylbenzene (100-41-4)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
20V. Methyl Bromide (74-83-9)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
21V. Methyl Chloride (74-87-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
LA0007901	001

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1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TEST-ING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)															
22V Methylene Chloride (75-09-2)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
23V. 1,1,2,2-Tetrachloroethane (79-34-5)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
24V Tetrachloroethylene (127-18-4)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
25V Toluene (108-88-3)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
27V 1,1,1-Trichloroethane (71-55-6)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
28V 1,1,2-Trichloroethane (79-00-5)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
29V. Trichloroethylene (79-01-6)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
30V Trichlorofluoromethane (75-69-4)	X			<5	-	-	-	-	-	1	µg/L	-	-	-	-
31V. Vinyl Chloride (75-01-4)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
GC/MS FRACTION - ACID COMPOUNDS															
1A. 2-Chlorophenol (95-57-8)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
2A. 2,4-Dichlorophenol (120-83-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
3A. 2,4-Dimethylphenol (105-67-9)	X			<10	-	-	-	-	-	5	µg/L	-	-	-	-
4A. 4,6-Dinitro-O-Cresol (534-52-1)	X			<50	-	-	-	-	-	1	µg/L	-	-	-	-
5A. 2,4-Dinitrophenol (51-28-5)	X			<50	-	-	-	-	-	1	µg/L	-	-	-	-
6A. 2-Nitrophenol (88-75-5)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
7A. 4-Nitrophenol (100-02-7)	X			<50	-	-	-	-	-	1	µg/L	-	-	-	-
8A. P-Chloro-M-Cresol (59-50-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
9A. Pentachlorophenol (87-86-5)	X			<50	-	-	-	-	-	1	µg/L	-	-	-	-
10A. Phenol (108-95-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
11A. 2,4,6-Trichlorophenol (88-06-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION-BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
2B. Acenaphthylene (208-96-8)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
3B. Anthracene (120-12-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
4B. Benzidine (92-87-5)	X			<50	-	-	-	-	-	1	µg/L	-	-	-	-
5B. Benzo (a) Anthracene (56-55-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
6B. Benzo (a) Pyrene (50-32-8)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
7B. 3,4-Benzo-fluoranthene (205-99-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
8B. Benzo (ghi) Perylene (191-24-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
9B. Benzo (k) Fluoranthene (207-08-9)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
10B. Bis (2-Chloro-ethoxy) Methane (111-91-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
11B. Bis (2-Chloro-ethyl) Ether (111-44-4)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
12B. Bis (2-Chloro-isopropyl) Ether (102-60-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
13B. Bis (2-Ethyl-hexyl) Phthalate (117-81-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
14B. 4-Bromophenyl Phenyl Ether (101-55-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
15B. Butyl Benzyl Phthalate (85-68-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
16B. 2-Chloro-naphthalene (91-58-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
18B. Chrysene (218-01-9)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
19B. Dibenzo (a,h) Anthracene (53-70-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
20B. 1,2-Dichloro-benzene (95-50-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
21B. 1,3-Dichloro-benzene (541-73-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-

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EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
LA0007901	001

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1. POLLUTANT AND CAS NUMBER (If available)	2. MARK "X" a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	3. EFFLUENT a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (If available) (1) CONCENTRATION	(2) MASS	c. LONG TERM AVRG. VALUE (If available) (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	4. UNITS a. CONCENTRATION	b. MASS	5. INTAKE (optional) a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	(2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION-BASE/NEUTRAL COMPOUNDS (continued)															
22B. 1,4 Dichlorobenzene (106-46-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
23B. 3,3-Dichlorobenzidine (91-94-1)	X			<20	-	-	-	-	-	1	µg/L	-	-	-	-
24B. Diethyl Phthalate (84-66-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
25B. Dimethyl Phthalate (131-11-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
26B. Di-N-Butyl Phthalate (84-74-2)	X			<10	-	-	-	-	-	5	µg/L	-	-	-	-
27B. 2,4-Dinitrotoluene (121-14-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
28B. 2,6-Dinitrotoluene (606-20-2)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
29B. Di-N-Octyl Phthalate (117-84-0)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
30B. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
31B. Fluoranthene (206-44-0)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
32B. Fluorene (86-73-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
33B. Hexachlorobenzene (118-74-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
34B. Hexachlorobutadiene (87-68-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
35B. Hexachlorocyclopentadiene (77-47-4)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
36B. Hexachloroethane (67-72-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
38B. Isophorone (78-59-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
39B. Naphthalene (91-20-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
40B. Nitrobenzene (98-5-3)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
41B. N-Nitrosodimethylamine (62-75-9)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
42B N-Nitrosodi-N-Propylamine (621-64-7)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-

CONTINUE FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitrosodiphenylamine (86-30-6)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
44B. Phenanthrene (85-01-8)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
45B. Pyrene (129-00-0)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
46B. 1,2,4-Trichlorobenzene (120-82-1)	X			<10	-	-	-	-	-	1	µg/L	-	-	-	-
GC/MS FRACTION – PESTICIDES															
1P. Aldrin (309-00-2)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
2P. α-BHC (319-84-6)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
3P. β-BHC (319-85-7)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
4P. γ-BHC (58-89-9)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
5P. δ-BHC (319-86-8)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
6P. Chlordane (57-74-9)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
7P. 4,4'-DDT (50-29-3)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
8P. 4,4'-DDE (72-55-9)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
9P. 4,4'-DDD (72-54-8)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
10P. Dieldrin (60-57-1)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
11P. α-Endosulfan (115-29-7)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
12P. β-Endosulfan (115-29-7)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
13P. Endosulfan Sulfate (1031-07-8)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
14P. Endrin (72-20-8)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
15P. Endrin Aldehyde (7421-93-4)	X			<0.10	-	-	-	-	-	1	µg/L	-	-	-	-
16P. Heptachlor (76-44-8)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
LA0007901	001

Form Approved
OMB No 2000-0059
Approval expires 7-31-88

CONTINUED FROM PAGE V-8

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK "X"			3. EFFLUENT							4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	a. MAXIMUM DAILY VALUE (2) MASS	b. MAXIMUM 30 DAY VALUE (if available) (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (if available) (2) MASS	c. LONG TERM AVRG. VALUE (if available) (1) CONCENTRATION	c. LONG TERM AVRG. VALUE (if available) (2) MASS	d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE (1) CONCENTRATION	a. LONG TERM AVERAGE VALUE (2) MASS	b. NO. OF ANALYSES
GC/MS FRACTION-PESTICIDES (continued)															
17P. Heptachlor Epoxide (1024-57-3)	X			<0.05	-	-	-	-	-	1	µg/L	-	-	-	-
18P. PCB-1242 (53469-21-9)	X			<1.0	-	-	-	-	-	1	µg/L	-	-	-	-
19P. PCB-1254 (11097-69-1)	X			<1.0	-	-	-	-	-	1	µg/L	-	-	-	-
20P. PCB-1221 (11104-28-2)	X			<1.0	-	-	-	-	-	1	µg/L	-	-	-	-
21P. PCB-1232 (11141-16-5)	X			<1.0	-	-	-	-	-	1	µg/L	-	-	-	-
22P. PCB-1248 (12672-29-6)	X			<1.0	-	-	-	-	-	1	µg/L	-	-	-	-
23P. PCB-1260 (11096-82-5)	X			<1.0	-	-	-	-	-	1	µg/L	-	-	-	-
24P. PCB-1016 (12674-11-2)	X			<1.0	-	-	-	-	-	1	µg/L	-	-	-	-
25P. Toxaphene (8001-35-2)	X			<5.0	-	-	-	-	-	1	µg/L	-	-	-	-

Appendix D

BIOMONITORING FREQUENCY RECOMMENDATION AND RATIONALE FOR ADDITIONAL REQUIREMENTS

Permit Number: **LA0007901**
Facility Name: **Gaylord Container Corporation d/b/a Temple Inland Paperboard & Packaging, Inc.**
Previous Critical Dilution: **9.6%** Proposed Critical Dilution: **8%**
Date of Review: **04/11/03; revised 10/23/03 and 10/24/05**
Name of Reviewer: **Celena Cage; revised by Melissa Reboul and Kim Gunderson**

Recommended Frequency by Species:

***Pimephales promelas* (Fathead minnow):** **Once/Quarter**[1]
***Ceriodaphnia dubia* (water flea):** **Once/Quarter**[1]

Recommended Dilution Series: **3%, 4%, 6%, 8%, and 10%**

Number of Tests Performed during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow):** **5**
***Daphnia pulex* (water flea):** **N/A – Testing of species was not required**
***Daphnia magna* (water flea):** **N/A – Testing of species was not required**
***Ceriodaphnia dubia* (water flea):** **5**

Number of Failed Tests during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow):** **No failures in the past five years**
***Daphnia pulex* (water flea):** **N/A – Testing of species was not required**
***Daphnia magna* (water flea):** **N/A – Testing of species was not required**
***Ceriodaphnia dubia* (water flea):** **2 (sub-lethal)**

Failed Test Dates during previous 5 years by Species:

***Pimephales promelas* (Fathead minnow):** **No failures in the past five years**
***Daphnia pulex* (water flea):** **N/A – Testing of species was not required**
***Daphnia magna* (water flea):** **N/A – Testing of species was not required**
***Ceriodaphnia dubia* (water flea):** **Test periods: 01/01/01-02/28/01 (sub-lethal) and 01/01/04-02/29/04 (sub-lethal)**

Previous TRE Activities: **N/A – No previous TRE Activities**

[1] If there are no lethal or sub-lethal effects demonstrated after the first year of quarterly testing, the permittee may certify fulfillment of the WET testing requirements in writing to the permitting authority. If granted, the monitoring frequency for the test species may be reduced to not less than once per year for the less sensitive species (usually *Pimephales promelas*) and not less than twice per year for the more sensitive species (usually *Ceriodaphnia dubia*). Upon expiration of the permit, the monitoring frequency for both species shall revert to once per quarter until the permit is re-issued.

Additional Requirements (including WET Limits) Rationale / Comments Concerning Permitting:

Gaylord Container Corporation d/b/a Temple Inland Paperboard & Packaging, Inc. owns and operates an unbleached kraft paper mill, box plant, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant in Bogalusa, Washington Parish, Louisiana. LPDES Permit LA0007901, effective February 1, 1995, contained freshwater chronic biomonitoring as an effluent characteristic of Outfall 001 for *Ceriodaphnia dubia* and *Pimephales promelas*. The effluent dilution series consisted of 4.3%, 5.7%, 7.6%, 10.2%, and 13.6% concentrations, with the critical dilution being defined as the 10.2% effluent concentration. The testing was to be performed yearly for the *Ceriodaphnia dubia* and *Pimephales promelas*.

Additionally, a major modification to LPDES Permit LA0007901, effective November 1, 1998 increased the biomonitoring frequency to once every two months for the *Ceriodaphnia dubia* and quarterly for the *Pimephales promelas*. Also, as a result of increased flow at this facility, the effluent dilution was modified to 4.1%, 5.4%, 7.2%, 9.6%, and 12.9% concentrations, with the critical dilution being defined as the 9.6% effluent concentration.

Data on file indicates that the permittee has complied with the biomonitoring requirements contained in LA0007901 with no lethal failures of either species in the last five years. However, there have been two sub-lethal failures of the *Ceriodaphnia dubia* during the testing periods 01/01/01-02/28/01 (NOEC of 5.7%) and 01/01/04-02/29/04 (NOEC of 7.6%). It should be noted that the permittee failed to use the new dilution series contained in the modified permit, effective November 1, 1998 for tests conducted during the previous five years. However, the critical dilution used in the previous permit was higher than that of the modified permit.

Therefore, it is recommended that freshwater chronic biomonitoring continue to be an effluent characteristic of Outfall 001 (discharge of 22.4 MGD of combined treated mill process wastewater from the kraft pulp and paper mills, linerboard mill, and dimethyl sulfide and dimethyl sulfoxide manufacturing plant; box plant wastewater; boiler and cooling tower blowdown; sludge dewatering liquid, lime kiln scrubber and boiler scrubber wastewater, miscellaneous wastewaters (comprised of wastewater from shops, showers, and an office), sanitary wastewater, and process area stormwater) in LA0007901. The effluent dilution series shall be 3%, 4%, 6%, 8%, and 10% concentrations, with 8% being defined as the critical dilution. In accordance with the Environmental Protection Agency (Region 6) WET testing frequency acceleration(s), the biomonitoring frequency shall be once per quarter for *Ceriodaphnia dubia* and *Pimephales promelas*. If there are no significant lethal or sub-lethal effects demonstrated at or below the critical dilution during the first four quarters of testing, the permittee may certify fulfillment of the WET testing requirements to the permitting authority and WET testing may be reduced to not less than once per six months for the more sensitive species (usually *Ceriodaphnia dubia*) and not less than once per year for the less sensitive species (usually *Pimephales promelas*) for the remainder of the term of the permit. Upon expiration of the permit, the monitoring frequency for both test species shall revert to once per quarter until the permit is re-issued.

Additional monitoring shall be conducted upon the usage of chlorine or any biofouling agent(s).

This recommendation is in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, EPA Region 6 Post-Third Round Whole Effluent Toxicity Testing Frequencies (Revised June 30, 2000), and the Best Professional Judgement (BPJ) of the reviewer.